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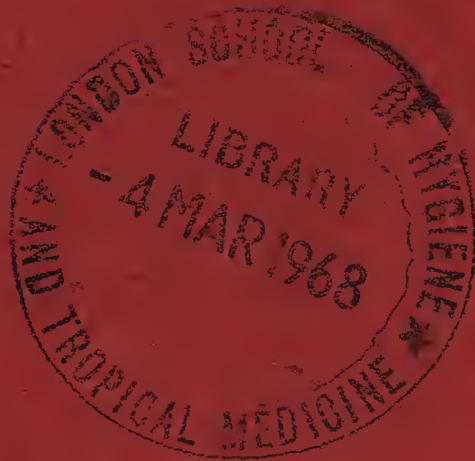
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**PREVENTION AND TREATMENT
OF TUBERCULOSIS IN THE
ADMINISTRATIVE COUNTY OF LANCASTER.**

Report of the Central Tuberculosis Officer
of the Lancashire County Council
for the Year 1926.

7/15





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Report of the Central Tuberculosis Officer
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for the Year 1926.

C. Tinling & Co., Ltd., Liverpool, London and Prescott.

1927,

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COUNTY TUBERCULOSIS COMMITTEE

(1927).

The Chairman of the County Council :

†H. Wade Deacon, Esq., C.B.E., J.P.

The Vice-Chairman of the County Council :

†J. T. Travis Clegg, Esq., J.P., D.L.

Chairman of Committee :

*†C. J. Trimble, Esq., C.B., C.M.G., L.R.C.S.I., J.P., D.L.

Vice-Chairman :

*E. Boothman, Esq., J.P.

COUNTY ALDERMEN—

Sir Henry F. Hibbert, Bart.,
J.P., D.L.

*W. Hodgson, Esq., J.P.

R. Sephton, Esq., M.R.C.S., J.P.
*H. Winstanley, Esq., L.R.C.P.,
L.R.C.S., J.P.

COUNTY COUNCILLORS—

*J. H. S. Aitken, Esq.
J. C. Beckitt, Esq., M.R.C.S.,
L.R.C.P., D.P.H.
G. H. Brown, Esq.
A. S. Bury, Esq., J.P.
D. J. Crellin, Esq.
*R. Dilworth, Esq.
F. H. Hollingworth, Esq.

*W. Hughes, Esq.
H. F. Jeffery, Esq., M.B.,
Ch.B., J.P.
*A. Kenyon, Esq.
*Rev. A. M. Mitchell, M.A.
*J. S. Rimmer, Esq.
*G. Scarr, Esq., O.B.E., B.A.,
M.B., L.R.C.S.I., J.P.

* Members of Sanatorium and Hospital Sub-Committee.

† County Aldermen.

MEDICAL AND NURSING STAFF OF THE TUBERCULOSIS DEPARTMENT, 1927.

Central Tuberculosis Officer :

G. Lissant Cox, M.A., M.D. (Camb.), M.R.C.S. (Eng.), L.R.C.P. (Lond.).

Consultant Tuberculosis Officers :

George Jessel, M.A., M.D. (Oxon.), D.P.H. (Manchester). (†24th July, 1913).

Charles W. Laird, B.A., M.D. (Dublin), D.P.H. (Liverpool). (†24th July, 1913).

Burgess MacPhee, M.B., Ch.B. (Glas.), D.P.H. (Camb.). (†24th July, 1913).

J. Logan Stewart, M.A., M.B., Ch.B. (Glas.), D.P.H. (Camb.). (†24th July, 1913).

Alan D. Brunwin, M.A., M.D., B.Ch. (Camb.), D.P.H. (Aberdeen). (†23rd October, 1913).

Assistant Tuberculosis Officers :

George H. Leigh, M.D., Ch.B., D.P.H. (Manch.). (†15th April, 1914).

Charles H. Lilley, M.B., Ch.B. (St. Andrew's), D.P.H. (Lond.). (†15th April, 1914).

George Fletcher, M.A., M.D., M.R.C.P. (Eng.), D.P.H. (Camb.). (†15th April, 1914).

Scott C. Adam, M.B., Ch.B. (Glas.), D.P.H. (Lond.). (†21st May, 1919).

G. Barker Charnock, L.R.C.S., L.R.C.P. (Edin.), L.R.F.P.S. (Glas.), D.P.H. (Liverpool). (†21st May, 1919).

Alexander B. Jamieson, M.B., Ch.B. (Edin.). (†22nd October, 1919).

Cecil Berry, L.R.C.P., L.R.C.S. (Edin.), L.F.P.S. (Glas.), D.P.H. (R.C.S.I.). (†16th June, 1920).

John Cathcart, M.B., Ch.B. (Edin.), D.P.H. (R.C.P.S.I.). (†16th June, 1920).

Medical Superintendent, High Carley Sanatorium and Oubas House Children's Sanatorium, and Consultant Tuberculosis Officer for Furness Sub-Area :

‡E. H. Allon Pask, M.D. (Lond.), L.R.C.P. (Lond.), M.R.C.S. (Eng.). (†24th July, 1913).

Assistant Medical Superintendent, High Carley Sanatorium :

Henry J. Villiers, L.R.C.P.I. and L.R.C.S.I. (†17th December, 1919).

Medical Superintendent, Elswick Sanatorium, and Consultant Tuberculosis Officer for Fylde Sub-Area :

§George Leggat, M.B., Ch.B., D.P.H. (Aberdeen). (†15th April, 1914).

† Date of Appointment.

‡ Appointed Medical Superintendent, 1916.

§ Appointed Medical Superintendent, 1919.

Visiting Medical Superintendent, Chadderton Pulmonary Hospital :
James Wood, M.D., M.B., Ch.B., D.P.H., R.C.P.S.I. (†22nd October, 1919).

Visiting Medical Superintendent, Peel Hall Pulmonary Hospital :
George Jessel, M.A., M.D. (Oxon.), D.P.H. (Manchester).

Visiting Medical Superintendent, Rufford Pulmonary Hospital :
Charles W. Laird, B.A., M.D. (Dublin), D.P.H. (Liverpool).

Visiting Medical Superintendent, Withnell Pulmonary Hospital :
Burgess MacPhee, M.B., Ch.B. (Glas.), D.P.H. (Camb.).

Visiting Physician, Luneside Pulmonary Hospital, Lancaster.
Alan D. Brunwin, M.A., M.D., B.Ch. (Camb.), D.P.H. (Aberdeen).

Tuberculosis Health Visitors :

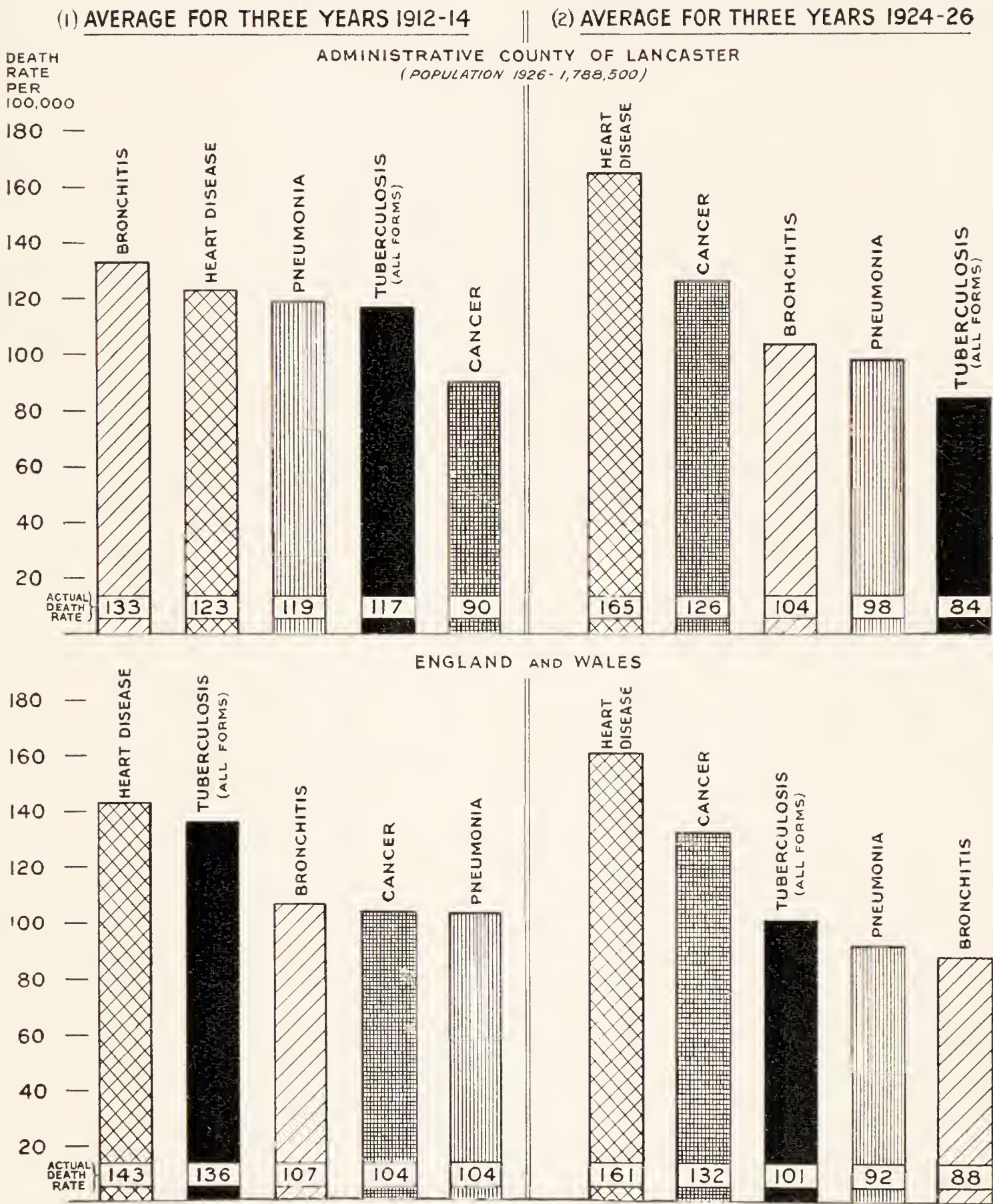
Nurse		Commenced duties	
M. A. Potter			1st June, 1914.
„	R. Lambert*	„	12th June, 1914.
„	E. Walch	„	15th June, 1914.
„	H. Dewsnap*	„	7th December, 1914.
„	A. Munro*	„	5th July, 1915.
„	M. Duggan*	„	30th August, 1915.
„	L. Walker*	„	6th September, 1915.
„	J. Skelcher	„	26th April, 1916.
„	A. Tweedy*	„	17th January, 1917.
„	I. Laing*	„	20th May, 1918.
„	E. Walters*	„	1st October, 1918.
„	I. F. Macdonald*	„	2nd October, 1918.
„	F. D. Abbott*	„	1st July, 1919.
„	C. Guilfoy*	„	1st July, 1919.
„	M. J. Wilson*	„	1st July, 1919.
„	A. Flynn*	„	1st December, 1919.
„	M. B. Jones	„	1st December, 1919.
„	L. F. Norwood	„	5th January, 1920.
„	E. Watterson	„	19th July, 1920.
„	E. A. Duston	„	1st February, 1921.
„	F. Milnes*	„	1st March, 1921.
„	H. M. Shakespeare*	„	1st March, 1921.
„	F. G. Smith	„	1st November, 1921.
„	M. A. M. Thornton	„	16th April, 1923.
„	A. Dickinson	„	5th September, 1923.
„	A. Duncan	„	1st April, 1924.
„	H. M. Alcock*	„	20th February, 1925.
„	D. Grime*	„	6th September, 1926.
„	A. Worsley*	„	23rd March, 1927.
„	W. Swift	„	4th April, 1927.

* Possesses a health visitor's or sanitary certificate.

† Date of Appointment.

Position of Tuberculosis among the Chief Causes of Mortality.

Death-rates per 100,000 of Population.



The above charts show : (a) In the Administrative County, tubereulosis (all forms) has fallen during the past fourteen years from 4th to 5th place among the five prinicipal eauses of mortality ; in England and Wales tubereulosis has fallen from 2nd to 3rd place ; (b) the Administrative County has a lower tubereulosis death-rate than England and Wales ; (c) the fall in tubereulosis and the rise in cancer are striking features for both Lancashire and England and Wales.

REPORT

OF THE

CENTRAL TUBERCULOSIS OFFICER

FOR THE YEAR 1926.

*To the Chairman and Members of the
Lancashire County Council.*

LADIES AND GENTLEMEN,

I have the honour to submit the twelfth annual report on the work of the tuberculosis department, and in this introductory portion will give briefly some of the principal features of the work in 1926.

The reduction in tuberculosis cases and deaths.

The death-rate from pulmonary tuberculosis (consumption) is, for the fourth successive year, the lowest on record.

The number of new cases of pulmonary tuberculosis notified in 1926 is also the lowest on record.

Further, the death-rate from non-pulmonary tuberculosis (disease of the bones, joints, glands, and brain) is the lowest on record.

The continued decline in the tuberculosis mortality and incidence must be regarded as satisfactory, particularly in view of the extensive unemployment in the coal, cotton, and other industries. Moreover, the tuberculosis death-rate is declining more rapidly than the general death-rate from all causes.

Finally, there is every indication from the returns to date that the tuberculosis death-rate for the current year will show yet another lowest figure on record.

Notification of cases.

Notification by practitioners of new cases of tuberculosis continues to be satisfactory, the statutory Regulations being carried out much better in this County than in many other parts of England and Wales. Instances of failure for some reason or other to notify cases are becoming much less frequent, and in 1926 all but 5 per cent of the deaths from pulmonary tuberculosis had been reported during life-time. This percentage is the lowest so far experienced in the County, and indicates the cordial and effective co-operation between the general practitioners, medical officers of health, and the tuberculosis medical staff.

Artificial light treatment.

This form of treatment, which was commenced experimentally at the Ashton-under-Lyne and Lancaster dispensaries in 1925, has been continued in 1926. Very good results have been obtained in two groups of cases of non-pulmonary tuberculosis, namely: lupus and adenitis with abscess formation and skin involvement. Many of the lupus cases had been for so long as 20 to 40 years under other forms

of treatment prior to starting light treatment. Additional light centres are being established at certain other dispensaries so as to cover the whole Administrative County, and to enable patients to be treated as out-patients near to their homes (see pages 9 to 28).

Wrightington Hall.

The accommodation at present available for the treatment of cases of non-pulmonary tuberculosis—in adults and children—at special and general hospitals has long been inadequate. The position in this County will be remedied by the provision of 226 beds at Wrightington Hall, near Parbold, in accordance with the scheme passed by the County Council in August, 1927, and approved by the Ministry of Health (see pages 93 to 96).

*Co-operation with sanitary authorities, medical practitioners,
and health officials.*

The results of the tuberculosis scheme would be very different if the relations with the medical practitioners in the County, together with the 121 sanitary authorities and their medical officers and sanitary inspectors, had not been of the most cordial and satisfactory character. I take this opportunity of acknowledging such co-operation from these sources. The practitioners continue to send over three-quarters of their patients to the dispensaries for examination before the statutory notification.

Cost of tuberculosis scheme.

The cost of the County scheme dealing with tuberculosis, allowing for government grants, has required a County Rate of 1·664 pence (roughly 1½d.) in the £ for the current financial year 1927–28.

I have again to thank my medical colleagues, the nursing staff and clerical staff for continued help. New methods of diagnosis and treatment, and a higher state of efficiency always aimed at, increases the work year by year. I have had very valuable help from my principal clerk, Mr. H. F. Hughes, especially in preparing this report, and have in addition to thank the public health department for furnishing certain statistics on notifications and deaths.

I am,

Your obedient servant,

G. LISSANT COX,

County Offices, Preston,

Central Tuberculosis Officer.

15th October, 1927.

TUBERCULOSIS : CAUSES AND PREVENTION.

The causes of tuberculosis are now fully known, and may be divided into two groups :—

- (1) The “exciting” cause, which is in every case the tubercle germ, the infection being passed on either from human beings or cattle already infected.
- (2) Pre-disposing causes and conditions, the most important being unhealthy occupations, lack of proper nourishment (through poverty or ignorance), unhealthy homes, and personal neglect.

Each person who contracts tuberculosis has been exposed at home or at work or elsewhere to large numbers of the germs of the disease (which he swallows or inhales) and also affected in varying degrees by one or more of the other pre-disposing causes which lower the power of resistance to the attack of the germs. Whatever effect the pre-disposing conditions may have, no person can contract tuberculosis without a previous case or source of infection from which the disease is spread—that is, it does not originate spontaneously in the human body.

Tuberculosis may attack any part of the body, but generally the lungs producing pulmonary tuberculosis (commonly known as “consumption”). Other parts also affected are the glands, bones, joints, skin, alimentary organs, and brain, disease of these parts being called non-pulmonary tuberculosis.

The great proportion, namely 89 out of every 100, of pulmonary cases occur in adults. Of the non-pulmonary cases there is, however, a slight predominance of children under 15 years of age, the proportion being 57 children out of every 100 cases.

It has been conclusively proved that several forms of non-pulmonary tuberculosis in children (mainly infection of neck glands, bones, joints and alimentary organs) arise from drinking milk from tuberculous cows.

PREVENTION.

The steps taken in the Administrative County of Lancaster to prevent the spread of infection (dealt with at greater length in other chapters of this report) may be briefly set down as follow :—

1. Every effort is made to secure the detection of cases of tuberculosis whilst in the early stage of the disease, and the general practitioners as a whole co-operate in this by referring cases, for an opinion as to diagnosis and treatment, to the staff of County consultant tuberculosis officers, who have facilities for X-ray examination and bacteriological tests at their disposal.

2. Early pulmonary cases receive sanatorium treatment with a view to bringing about arrest of the disease and ultimate cure ; advanced cases are sent to pulmonary hospitals for education in hygiene, and, if their home conditions are unsatisfactory, for long periods of isolation.

3. The dispensary staff pay particular attention to the home conditions of the patients, securing where possible a separate room or at least a separate bed, efficient ventilation, hygienic disposal of sputum, use of separate crockery and cutlery, and so on. Any insanitary conditions are reported to the local medical officer of health.

4. Pulmonary cases are provided with paper handkerchiefs or sputum cups.

5. Contacts of infective cases are examined by the tuberculosis officer, and by this means a number of early cases are discovered.

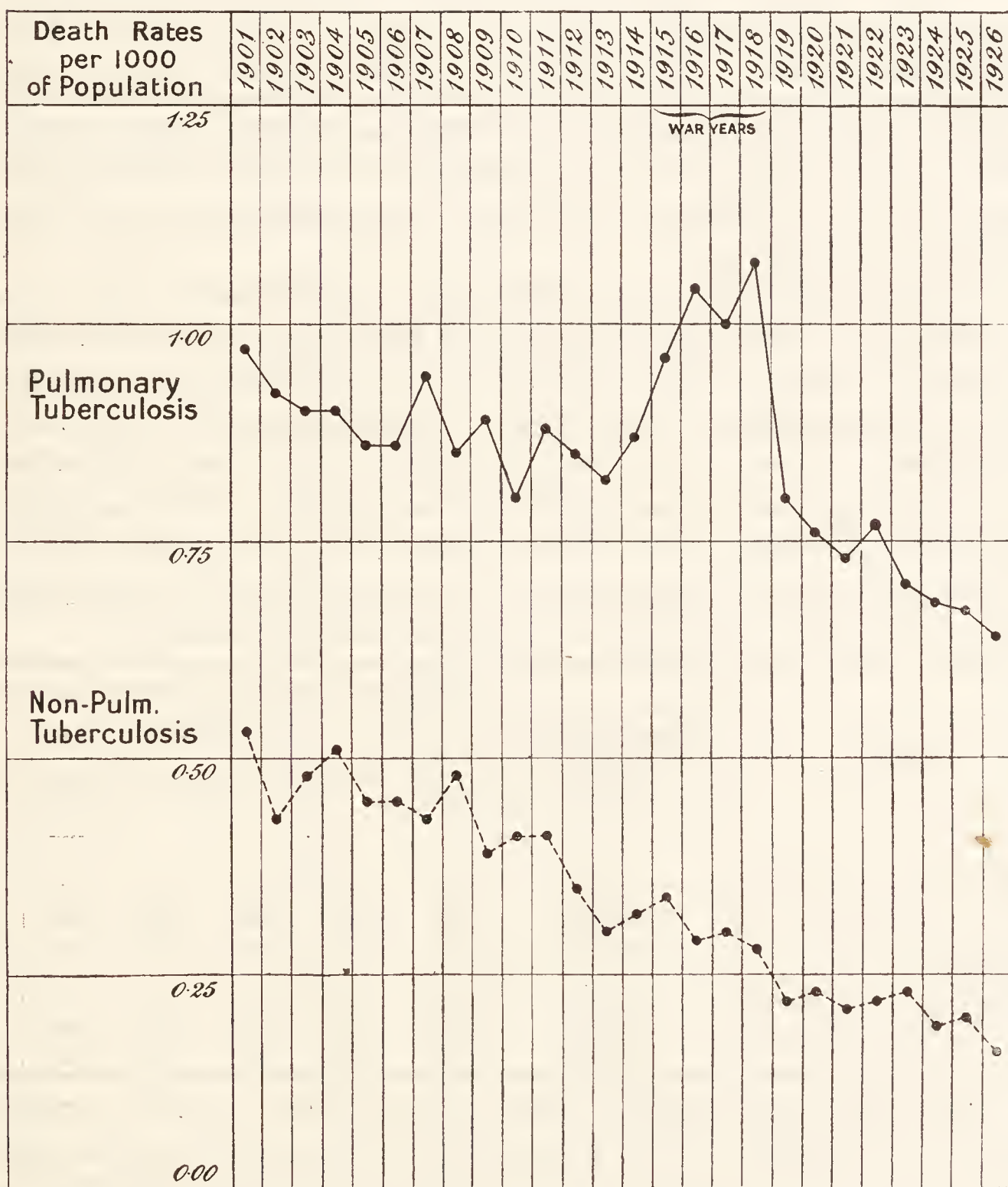
6. The tuberculosis officers co-operate with local medical officers of health in restraining any person suffering from tuberculosis of the respiratory tract from engaging in employment entailing the handling of milk ; such employment is prohibited by the Public Health (Prevention of Tuberculosis) Regulations, 1925.

Tuberculous milk is dealt with under the Tuberculosis Order of 1925, which provides for the notification to the Police of any affected cow and its slaughter after veterinary examination.

THE REDUCTION IN MORTALITY FROM TUBERCULOSIS.

In England and Wales, and the English-speaking countries generally, a big decline in the death-rate has taken and is taking place. The figures for the Administrative County of Lancaster, based on a population of over one and three-quarter millions, show a progressive decline in the last five years for pulmonary tuberculosis, and a fall for non-pulmonary, as will be seen from the following chart. During the ten years before the war there was, in Lancashire, little or no decline at all in the deaths from pulmonary tuberculosis.

ADMINISTRATIVE COUNTY OF LANCASTER.



Pulmonary Tuberculosis —————
Non-Pulmonary Tuberculosis - - - - -

We have had in this County, in common with most other areas in the country, fewer new cases of pulmonary tuberculosis, the Lancashire figures being :—

New cases of pulmonary tuberculosis notified in 1919 ... 2,105

New cases of pulmonary tuberculosis notified in 1926 ... 1,828

But the general death-rate of the country is also declining, and the following Table 1 shows the extent to which the tuberculosis death-rate is assisting in the fall :—

	Proportion of deaths from tuberculosis (all forms) to total deaths from all causes.				
	1918–20 %	1921–23 %	1924 %	1925 %	1926 %
Lancashire Admin. County	7·64	7·62	6·95	6·92	6·73
England and Wales ...	9·28	9·08	8·68	8·54	8·26

These figures give important information for they show that the decline in the death-rate from tuberculosis in this Administrative County and also in England and Wales is more rapid than the decline in the general death-rate.

Tuberculosis is one of the five principal causes of death in this country. Changes in the relative position of tuberculosis to heart disease, bronchitis, pneumonia and cancer and also its diminution are shown in the chart, printed as a frontispiece (opposite page ix). The fall in tuberculosis and the rise in cancer are the striking features of this chart.

At what age period has the decline taken place ? First, as regards *pulmonary* tuberculosis, the greatest improvement has taken place in the deaths of males in age-groups 45–65, and of females in age-groups 25–45 and 45–65, as will be seen from the following Table 2 :—

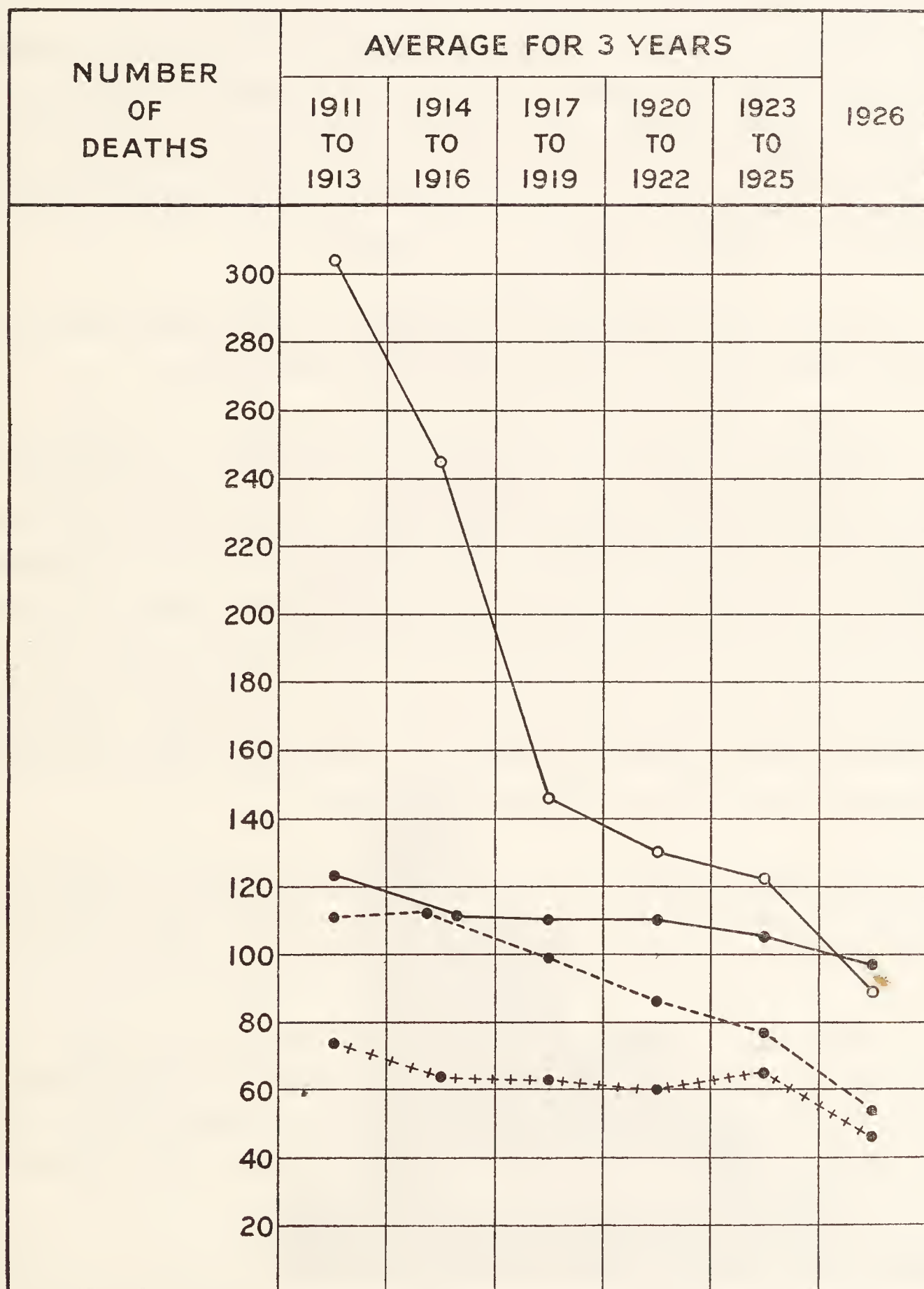
Period.	Estimated Sex Population of Administrative County.	Pulmonary deaths in various age-groups: Years.					
		0-15	15-25	25-45	45-65	65 and over	Total.
MALES—							
Average 5 years—1920-24	837,301	27	119	288	241	27	702
1925	848,086	23	117	266	230	24	660
1926	849,512	15	112	281	212	23	643
FEMALES—							
Average 5 years—1920-24	925,491	38	172	253	106	17	586
1925	937,414	26	162	233	110	14	545
1926	938,988	27	174	214	85	15	515

The table also illustrates the fact that the female mortality (despite the difference in sex population) is much less than the male.

In regard to *non-pulmonary* tuberculosis, the deaths and cases also predominate among the males, but the figures are small, and no useful purpose is achieved by drawing out tables of comparison.

Taking both sexes together in the several age-groups, the decline in the deaths from this form of tuberculosis is found to occur chiefly among the children in the age-group 0 to 5 years, followed by the group 5 to 15, as will be seen from the following graph:—

Deaths from Non-Pulmonary Tuberculosis in the Administrative County of Lancaster in Age-Groups.



0 TO 5 YEARS ○ — ○ — ○

5 TO 15 YEARS ● - - - ● - - - ●

15 TO 25 YEARS ● + + + + + ● + + + + +

25 YEARS & UPWARDS — ● — ● — ●

REASONS FOR THE DECLINE.

We have seen that there has been a decline in the deaths from both pulmonary and non-pulmonary tuberculosis, and the question presents itself : What is the decline due to ? The answer is difficult—it is doubtful if even an exhaustive analysis would convince everyone. Most will agree that there are several factors at work, such as a better knowledge of hygiene and a better educated people. There are the special measures dealing with tuberculosis, and the section of the public health service which devotes itself to the prevention of the disease by the supervision of the patients' home conditions and the isolation of infectious persons in hospitals.

Another step of far-reaching importance is the destruction—even if only partial to-day—of cows with active tuberculosis.

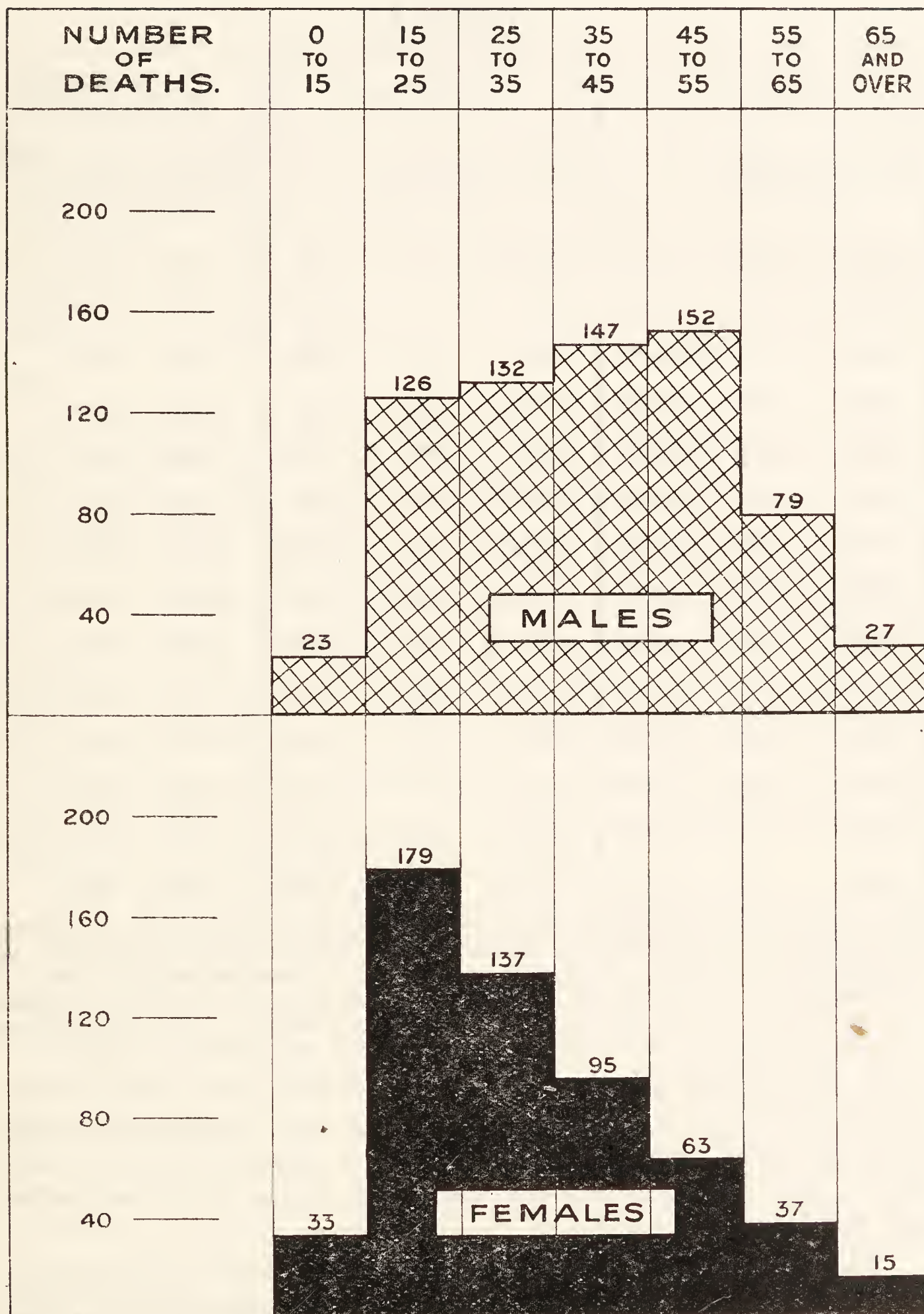
But all the factors at work are not favourable. I will mention two : unemployment and overcrowding. With unemployment so severe it is remarkable that there has been in the last five years in this County a progressive decline in the death-rate from tuberculosis. Then there is the factor of bad housing and overcrowding. This is a contentious subject, and often absurd statements are made on it ; a not infrequent one is that money spent on the measures for the prevention of tuberculosis would be better spent on housing. This view is clearly fallacious because women, who spend more time in the home than men, have a lower death-rate than men.

The chart opposite shows for the Administrative County the average deaths in the comparative age-groups from pulmonary tuberculosis of males and females for the five years 1922–26.

The greater mortality of males must be regarded as evidence that the dangers of infection are not so much domestic as (*a*) industrial, through place or nature of occupation, and (*b*) convivial, through resort to a public house or club—both of which dangers women commonly escape.¹

¹ Dr. F. T. H. Wood, M.O.H., Bootle ; ANN. REP. for 1926.

ADMINISTRATIVE COUNTY OF LANCASTER.
MORTALITY IN AGE GROUPS.
DEATHS FROM PULMONARY TUBERCULOSIS.
AVERAGE FOR FIVE YEARS 1922-26.



The chart demonstrates that, in contrast to the males, the female deaths decline rapidly after age 25 at a time when most women cease wage-earning work and enter, on marriage, into household duties.

CASES AND DEATHS.

I append Table 3 showing the actual number of cases notified and the deaths registered during the fourteen years 1913 to 1926 in the Administrative County.

TABLE 3.

Year.	Cases Notified.			Deaths.			Death-rate per 1,000 of population.		
	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Total.	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Total.	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Tuberculosis (all forms)
1913	2,700	1,592	4,292	1,441	527	1,968	0·82	0·30	1·12
1914	2,820	1,140	3,960	1,523	572	2,095	0·87	0·32	1·19
1915	2,872	1,128	4,000	1,614	555	2,169	0·96	0·34	1·30
1916	2,689	1,180	3,869	1,685	471	2,156	1·04	0·29	1·33
1917	2,375	1,062	3,437	1,584	466	2,050	1·00	0·30	1·30
1918	2,534	885	3,419	1,652	435	2,087	1·07	0·28	1·35
1919	2,105	847	2,952	1,339	358	1,697	0·80	0·22	1·02
1920	2,084	968	3,052	1,323	396	1,719	0·76	0·23	0·99
1921	2,044	899	2,943	1,301	376	1,677	0·73	0·21	0·95
1922	1,863	956	2,819*	1,362	389	1,751	0·77	0·22	0·99
1923	1,937	1,188	3,125*	1,250	412	1,662	0·70	0·23	0·93
1924	1,972	1,120	3,092*	1,215	339	1,554	0·68	0·19	0·87
1925	1,846	1,027	2,873*	1,205	361	1,566	0·67	0·20	0·87
1926	1,828	953	2,781*	1,158	286	1,444	0·64	0·16	0·80

* Corrected figure after deducting the following cases found to be non-tuberculous and notifications cancelled:—1922: 14 pulmonary, 12 non-pulmonary; 1923: 33 pulmonary, 31 non-pulmonary; 1924: 57 pulmonary, 38 non-pulmonary; 1925: 83 pulmonary, 49 non-pulmonary; and 1926: 61 pulmonary, 41 non-pulmonary.
N.B.—The notifications in 1924 cover a period of 53 weeks, and in 1913, 48 weeks.

In Appendix I, on pages 112 and 113 of this report are given the death-rates from pulmonary and non-pulmonary tuberculosis in 121 urban and rural sanitary districts in the Administrative County, and on page 113 are given for 1926 the deaths and death-rates from tuberculosis in the several dispensary areas.

The notifications of tuberculosis in 1926 are dealt with further in Appendix II, where folding Tables B, C, and D, are inserted, analysing them as regards the parts of the body affected, age, and sex.

THE TREATMENT OF TUBERCULOSIS BY ARTIFICIAL LIGHT.

INTRODUCTION.

Sunlight is a very important factor, as everyone knows, in the maintenance of health and the cure of disease. The germs of tuberculosis—the tubercle bacilli—will remain alive for months in darkness, but they are killed very quickly when exposed to strong sunshine. Unfortunately, civilisation leads to congregation of the population in towns, where the sun is excluded by high buildings and clouds of smoke overhead, as well as by bad weather, and the dense atmosphere of towns acts as a filter which keeps out the most valuable rays of the sun.

If wisely used, natural sunlight will cure many persons suffering from tuberculosis of the skin, bones, joints and glands, as well as other diseases. But in this country there is not a very great opportunity for the treatment of cases by natural sunlight, and this is especially true in the north-west of Great Britain. There have been, however, invented quite recently certain lamps, such as the carbon arc lamp, which produce what is commonly called “artificial sunlight,” emitting the ultra-violet rays which have so powerful an influence in the curative treatment of tuberculosis. By the use of many varieties of lamps, much progress has been made in the treatment of non-pulmonary tuberculosis by artificial light, and this report will record the success which has been achieved at certain tuberculosis dispensaries of the Lancashire County Council.

Early in 1925 the County Tuberculosis Committee considered the desirability of taking steps to commence artificial light treatment at the County dispensaries and also at the County sanatoria and hospitals.

Before embarking on any large scheme for the provision of light treatment, many factors have to be taken into consideration, such as the accessibility of, and the accommodation at, the dispensaries (particularly the size of rooms, the ventilation, and the supply of electric current), the number of county cases and the type of case most likely to benefit by the treatment, the staff necessary, the number of hours per day during which treatment could be given, and the frequency of attendance by patients.

As artificial light was a new branch of medicine, it was necessary to consider training the medical and nursing staff for the work. The County Council, in May, 1925, authorised certain initial steps to be

taken : (a) two of the consultant tuberculosis officers (Dr. J. Logan Stewart and Dr. A. D. Brunwin) were granted leave of absence to enable them to attend and study the technique of the treatment at existing light centres under eminent specialists on the subject ; and (b) the establishment of two experimental light installations, one at the Ashton-under-Lyne Dispensary under Dr. Stewart, and the other at the Lancaster Dispensary under Dr. Brunwin.

THE EXPERIMENTAL LIGHT CENTRES AT ASHTON-UNDER-LYNE AND LANCASTER DISPENSARIES.

Ashton-under-Lyne Dispensary.

The centre at the Ashton-under-Lyne Dispensary was opened on the 11th September, 1925, and since that time the following lamps have been tried there :—

- (a) Two Westminster Eidinow long-flame carbon arcs, 30 ampères each.
- (b) One mercury vapour atmospheric type (K.B.B.), 3 ampères.
- (c) One Jesionek mercury vapour lamp, 4 to 5 ampères. (Obtained in January, 1927, in place of the atmospheric mercury vapour K.B.B. lamp).
- (d) One Kromayer water-cooled quartz lamp, 5 ampères (obtained in October, 1926).

N.B.—One carbon arc lamp and the Kromayer lamp were the gift of the Ashton-under-Lyne and District Voluntary Care Committee.

The electric current supplied is “direct” ; the voltage for the Jesionek and Kromayer lamps is 240 (from the public supply), and for the two carbon arcs 100 volts (from a motor generator installed on the dispensary premises).

Lancaster Dispensary.

The centre at Lancaster Dispensary was opened on the 15th July, 1925, and the following equipment has been in use during the whole or part of the time :—

- (a) One “Alpine Sun” carbon arc lamp with four electrodes ; 15 to 18 ampères.
- (b) One mercury vapour, atmospheric type (K.B.B.) lamp, 3 ampères.
- (c) One Hanovia “Alpine Sun” mercury vapour quartz (vacuum) lamp, 3 to 4 ampères. (Provided in January, 1927, in place of the K.B.B. atmospheric mercury vapour lamp).
- (d) One tungsten arc lamp for local irradiation, 5 ampères (provided in January, 1927).

The supply of electric current is "direct" at a voltage of 240. The voltage for the carbon arc is reduced to 60 for each of the four electrodes. Difficulty has been experienced in securing adequate current from the supplying authority, owing to interference with ordinary lighting arrangements of the locality.

Training of Staff.

Dr. Stewart and Dr. Brunwin instructed their existing staff of tuberculosis health visitors in the use of the lamps, and so as to avoid the question of the appointment of additional staff, several of the nurses from the other dispensary areas were called upon to undergo instruction and to take a turn of duty.

The assistant tuberculosis officers—Dr. G. H. Leigh at Lancaster, and Dr. G. Fletcher and Dr. C. Berry at Ashton—after study under their seniors, were able to help when required in the medical supervision of the cases.

Observations on Experimental Work.

As the trial of the equipment proceeded, it was found that certain lamps did not produce sufficiently satisfactory results, and changes were made. Throughout, Dr. Stewart and Dr. Brunwin have collaborated in the experimental work, and often the negative findings of the one on a certain line of treatment have supported the positive findings of the other by a different line of treatment.

Both the light centres named have been visited by many persons and representatives of public bodies interested in the new form of treatment, and every assistance has been given to them. Dr. F. J. H. Coutts, C.B., the senior Medical Officer of the Ministry of Health in charge of the Tuberculosis section, visited the Ashton dispensary to observe the work which was being done.

RESULTS OF TREATMENT.

The two centres have now been in use more than twelve months, and the following results and observations recorded.

(a) Ashton-under-Lyne Centre.

The following table shows the number of patients treated up to the end of 1926 at the Ashton-under-Lyne dispensary, divided according to the lesion and the lamp used. The notes in parentheses relate to the condition of the patient on commencing light treatment :—

TABLE 4. *Results of Treatment (Ashton).*

Nature of Active Tuberculous Lesion.	No. of Cases.	Lamps used.	Condition on 1/1/27.			
			Quiescent & apparently cured.	Improved (Still under treatment).	Stationary (Still under treatment).	Worse.
Lupus	48	Carbon Arc General & Kromayer	21	27	—	—
Adenitis (with abscess formation and skin involvement)	29	Carbon Arc General & Mercury Vapour	26	2	1	—
Adenitis (without softening)	24	Do.	17	7	—	—
Knee Joint ...	6	Carbon Arc General & Kromayer	4 (2 disease sub-acute; 2 little or no activity but considerable synovial thickening)	2 (No activity, synovial thickening)	—	—
Elbow Joint ...	4	3 Carbon Arc, 1 Carbon Arc & Kromayer	3 (2 active, 1 slight activity)	1 (Active)	—	—
Ankle Joint ...	1	Carbon Arc & General	1 (Slight activity, synovial thickening)	—	—	—
Wrist Joint ...	1	Do.	—	1 (Active, secondary infection & sinuses)	—	—
Sinuses from Bone and Joint disease	13	Carbon Arc General, Mercury Vapour & Kromayer	10	1	2	—
Lupus and Bone (Multiple) ...	1	Carbon Arc General	1	—	—	—
Bazin's disease ...	1	Do.	—	1	—	—
Bazin's disease and Adenitis	1	Do.	1	—	—	—

TABLE 4 (contd.) *Results of Treatment (Ashton).*

Nature of Active Tuberculous Lesion.	No. of Cases.	Lamps used.	Condition on 1/1/27.			
			Quiescent & apparently cured.	Improved (Still under treatment).	Stationary (Still under treatment).	Worse.
Multiple Non-pul.	2	Carbon Arc General	1	1	—	—
Phlyctenular Conjunctivitis	1	Do.	1	—	—	—
*Spine	1	Do.	—	1	—	—
Lungs & Larynx ...	1	Do.	—	—	—	1
Lungs & Adenitis	2	Do.	—	2	—	—
**Lungs & Tb. Bone	1	Do.	—	—	1	—
†Pleura	1	Do.	1	—	—	—
Bronchial Glands...	6	Do.	3	1	2	—
Tb. Empyema ...	1	Do.	—	1	—	—
††Renal & Pleura	1	Do.	—	—	—	1
Renal & Abdominal	1	Do.	—	1	—	—
Abdominal ...	3	Do.	1	2	—	—
Total ...	150	—	91	51	6	2
Adults, Chldn.						
88 62						

*Convalescent treatment after institutional treatment.

**Bone lesion cured. Lung lesion stationary.

†Diagnosis doubtful.

††Had Amyloid disease.

The patients in whom the disease has been “quiescent and apparently cured” will continue to be kept under supervision by the dispensary staff for three years (as required by the Ministry of Health) before being finally written off the Register as cured. No patient has yet been reported as having relapsed.

Dr. Stewart reports as follows on the results :—

“In two of the groups, the results were so good as to establish beyond doubt the efficacy of this form of treatment.

“These two groups were (1) lupus and (2) tuberculous glands with abscess formation and involvement of the skin.

“ Having seen many cases of lupus treated by all the present known methods, I am forced to come to the conclusion that there is no method of treatment available which can compare with artificial light.

“ A fair number of the cases were treated to a conclusion with the general exposure alone, but in the majority of lupus cases there is no doubt that the addition of local treatment by the Kromayer or the Finsen Reyn lamp hastens the cure, and in some cases the local treatment is absolutely necessary.

“ Another group in which surprisingly favourable results were obtained was that of tuberculous joint disease. Cases of hip joint disease and also cases of spinal disease are unsuitable for treatment as out-patients, and they should always be sent to an orthopædic hospital, but many of the other joint cases can be treated quite well at the dispensary if light treatment is available.

“ Some very striking results were obtained in cases of multiple tuberculosis.

“ Many sinuses that had failed to heal by ordinary methods of treatment have been successfully treated by light. One case of sinus in the axilla which had been discharging for 14 years has been healed by combined general and local treatment.

“ In the case of tuberculous glands which had not softened, the response was variable. Some have done extremely well, but in a few the improvement has been very slow. In many cases of this type, surgical treatment in general hospitals seems to be the most suitable form of treatment, but there are quite a number in which, owing to the widespread glandular infection, surgical treatment is not so likely to be successful, and it is this type of case that has been mostly selected for light treatment. Tuberculous eye conditions seem to respond very well to general treatment.

“ Cases of bronchial gland tuberculosis have done well, and the X-ray evidence tends to support the view that the light has had a favourable effect, although one is naturally cautious in drawing any definite conclusions, as it is possible the improvement might have taken place without the light.

“ With lupus and other long-standing superficial lesions, the disease had been long enough present in most cases to have demonstrated that the methods so far used had failed to bring about a cure, and the progress of the lesion after the commence-

ment of light treatment was fairly reliable evidence of the effect of the new form of treatment. For example, in the 21 cases of lupus which have been cured, the average duration of the disease before the light treatment commenced was 12 years, the periods varying from 2 years to 45 years.

“ Very few cases of pulmonary tuberculosis have been treated. In three febrile cases, no beneficial effect was observed after a few exposures. If anything, the temperature seemed to become more unsettled while under light treatment, and consequently such treatment was not continued.

“ In a few cases where afebrile pulmonary tuberculosis was combined with non-pulmonary lesions, the progress made has been satisfactory.

“ In one case where there was an extensive lesion of low activity in the lungs, combined with a bone lesion, the non-pulmonary condition healed quickly, but the patient has progressively lost weight, and on the whole the pulmonary lesion has remained stationary.”

Below are given notes on several typical cases which have received light treatment :—

A.F., AGED 50. (H.O. No. 13172).

A case of extensive lupus of the face, both cheeks and the nose being affected. Active tuberculosis of left ankle joint with two discharging sinuses. Tuberculosis also of the right ankle joint. Lupus in various situations of the body. Tuberculosis of the wrist. This patient was unable to walk from her home to the dispensary when light treatment commenced on the 20th November, 1925. She was also so disfigured facially that she did not care to expose herself. Arrangements were made for her conveyance to the dispensary and she was given general light baths with the long-flame carbon arcs. Improvement commenced almost immediately, the lupus on the face especially responding to the treatment. After two months she was able to walk about fairly well, and was able to walk from her house to the dispensary. By November, 1926, the lupus on the face was practically quiescent. The right ankle had healed. There was still some synovial thickening at the left ankle. At the end of 1926 the skin lesion showed no signs of activity and sinuses, &c., had healed, the only abnormality remaining being some synovial thickening at the left ankle. This patient had received no other treatment than general carbon arc light baths.

J.B. AGED 20. (H.O. No. 15325).

This was a case of extensive lupus of the face and body, and also tuberculosis of the right ankle. Practically the whole of the face was involved and ectropion of both eyes had developed. Both auricles were partly destroyed. The lupus extended also over large areas of the body, back and front, also the left arm and right thigh. Duration of disease before light treatment commenced, 13 years. He was unable to walk to the dispensary when light treatment commenced on 11th September, 1925, and arrangements were made for his conveyance to the dispensary in a bath-chair. In two months' time he was able to walk to the dispensary. He gained in weight rapidly, and by April, 1926, the skin lesions were all

healed, and the right ankle had also healed. From 21st September, 1925, to 6th October, 1926, he gained 29 lbs. The treatment was discontinued in November, 1926, the patient being discharged as cured. He has remained in excellent health and there has been no recrudescence. He is fit for work, but has been unable so far to obtain suitable employment. The only treatment this patient received during the period mentioned was general carbon arc baths.

A.H. AGED 27. (H.O. No. 53555).

A case of lupus of the face, involving the skin of the nose and most of the left cheek, and also a considerable area of the right cheek. Disease commenced in 1917, and she had various forms of treatment at infirmaries and skin hospitals, including scraping, X-ray treatment, acid, &c. Light treatment commenced on 11th September, 1925. General carbon arc baths. By June, 1926, the disease was quiescent. The appearance of the face was very greatly improved, and it is now hardly possible to say that she has had disease on the right side of the face, the only indications of the previous disease being an area of scarring and pigmentation on the left cheek caused by the previous X-ray treatment. The patient's weight on the 18th September, 1925, when light treatment commenced, was 7 st. 8½ lbs., and at the end of 1926 9 st. 9 lbs. It is interesting to note that she also suffered from psoriasis, dating back to five years of age. The light treatment had no real effect on this disease. She had five local applications with the Kromayer lamp in addition to the general carbon arc baths. No other treatment was given while she was receiving artificial light.

MRS. H. AGED 45. (H.O. No. 10484).

Extensive lupus of chin and neck, extending on to the lower lip. Duration of disease before light treatment commenced, 40 years. Light treatment commenced 14th December, 1925. She had previously had various forms of treatment, including X-ray, acid, &c. The disease, although healed in the centre of the lesion, was active all round the margin. She received general carbon arc baths throughout with, in addition, local treatment by the Kromayer lamp from 20th October, 1926. The lesion steadily improved, and by the end of 1926 was quiescent. In this case the local treatment with Kromayer lamp was undoubtedly of value. This case is interesting in view of the very long duration of the disease.

Number of Patients Treated.

The total number of patients treated in 1926 was 150, but this figure does not include patients who (a) had less than two months' treatment; (b) concluded treatment prematurely on account of leaving the district or finding themselves unable to attend.

The average number of patients under treatment at any one time was 123.

Weights of Patients.

The weights of all patients attending are now taken weekly, instead of monthly, as at first. Of the 91 patients who have concluded treatment with the disease "quiescent and apparently cured," 79 gained in weight an average of 8½ lbs.; 6 remained stationary, while 6 lost weight averaging 4½ lbs. The net gain in weight of the 91 patients was on the average 7.38 lbs. (adults 6 lbs., children 8 lbs.).

Although gain in weight has been the general rule, there have been many cases where the local condition has healed with no apparent effect being produced on the general condition and weight of the patient.

Duration of Treatment.

The duration of treatment required has varied very widely according to the type of case. Taking the several groups of cases in which the disease has become “quiescent and apparently cured,” the average duration is as follows; alongside each group is shown for comparative purposes the average duration of the disease *before* artificial light treatment commenced :—

TABLE 5.

Type of Tuberculous case (all with active disease).	Cases quiescent and apparently cured after Light treatment.		For comparison : Average duration of disease <i>before</i> commencement of Light treatment.*
	No. of cases.	Average duration of Light treatment.	
		Months.	Months.
Lupus	21	13	144
Adenitis (with abscess formation and skin involvement)	26	8	45
Adenitis (without abscess) ...	17	8½	39
Joints	8	11	21
Sinuses from Bone and Joint disease	10	8	48
Other lesions	9	9½	26
Total	91	9⅘	63
	Adults Children 47 44		

* Of these 91 patients 64 had received the following forms of special treatment prior to commencing light treatment :—
Residential treatment at General and Special Hospitals 34
Out-patient treatment at Special Skin Hospital 23
Surgical appliances 7
In addition, all patients received general supervision from the dispensary staff.

Dosage and Effect on the Skin.

With regard to the routine course of dosage of light, Dr. Stewart adopted the following procedure :—

- “ A skin test is taken in every case before treatment is commenced, so that the sensitivity of the patient is ascertained, and the initial exposure depends upon the result of this.
- “ The initial exposure in the case of the mercury vapour lamp is usually about one minute or two minutes, increasing gradually to half an hour.
- “ With the carbon arc lamps, the exposures depend upon

the type of carbons used. With white flame carbons the initial exposure is usually five minutes, increasing to one hour. With Conradty (Noris Chromo) carbons, the initial exposure is usually two minutes, increasing gradually to ten minutes. For the general treatment, the whole body is exposed at each sitting, anteriorly for half the time, and posteriorly for the other.

“A slight erythema is aimed at, and pigmentation is allowed to develop. The method of exposing only one-fourth of the body surface at one time and avoiding pigmentation was tried for a time, but it was given up as the results did not seem to be quite so good, and the patients themselves stated that they did not feel the same benefit from this method.

“There is no set routine in the matter of exposures, as it is most important that each individual case should be treated on its merits and the dosage increased according to the sensitivity of the patient.

“In the case of the Kromayer lamp which is used for local treatment only, the exposures vary from two minutes to ten minutes. In some cases it is given at a distance of one inch or two inches, and in other cases pressure is applied by means of quartz rods and lenses. With this lamp a reaction of the 4th degree is aimed at.

“The temperature of the general light room is kept as far as possible round about 65°F.

“The eyes of the patients are protected by red celastoid eye shades, which have been found to be very suitable and safe.”

Careful records of pigmentation were kept for each patient, and they are of scientific value. Of the total 91 cases, which concluded treatment “quiescent and apparently cured,” the degree of pigmentation was :—Deep, 34 ; medium, 24 ; light, 32 ; nil, 1.

Dr. Stewart found that generally “the fair-haired patients were poor pigmenters, and the exposures to the light in these cases had to be most carefully graduated. All cases, however, without regard to colour of hair or condition of skin varied within wide limits in their sensitivity to the light, and the fact that a patient was dark-haired was no guarantee that he might not be unduly sensitive to the light. One dark-haired patient had a very severe reaction when exposed for one minute to the carbon arc lamp with Conradty carbons.”

Absence of pigmentation does not necessarily mean that the patient will not do well so far as the local disease is concerned.

Effect of Light on Patients.

The effect of artificial light treatment on the mentality of the patients has been almost without exception good. This was especially noticeable in the case of children where the improvement in brightness, alertness, and sharpness has been noted by everyone, including the school teachers.

It may be remarked that the atmosphere of cheerfulness that pervades the light department has made the work very pleasant and a relief to the members of the nursing staff, whose other duties are sometimes of a depressing nature.

(b) *Lancaster Centre.*

Table 6 overleaf, shows the number of patients treated up to the end of 1926 at the Lancaster Dispensary, divided according to the lesion and the lamp used.

Dr. Brunwin reports on the results of treatment as follows :—

“It will be seen that most non-pulmonary cases did very well, but no material benefit was noticed in the lupus cases owing to the fact that local treatment could not be given. With the provision of the tungsten arc lamp at the beginning of 1927, it will be possible to give local treatment.

“The cases in which the most striking results were seen were patients with a tuberculous elbow, hip and spine respectively; in each case a discharging sinus was present, and the disease was of long duration, and in each instance the disease is now ‘quiescent and apparently cured.’

“The patients in whom the disease has become ‘quiescent and apparently cured,’ will continue to be kept under supervision by the dispensary staff for three years (as required by the Ministry of Health) before being finally written off the register as cured. No patient has yet been reported as having relapsed.

“The results generally have been very good, and I expect that in 1927 they will be even better with the improvement which has been made in the lamp for local treatment.”

Duration of Treatment.

Dr. Brunwin has, owing to difficulties in regard to electric current, only been able to give his patients an average period of twelve weeks' treatment.

Number of Patients Treated.

The total number of patients treated was 37; the average number under treatment at any one time was 12.

TABLE 6. *Results of Treatment (Lancaster).*

Type of Tuberculous Case.	No. of Cases.	Lamps used.	Condition on 1/1/27.			
			Quiescent and apparently cured.	Improved.	Stationary.	Worse.
Lupus	5	Carbon Arc	1	2	2	—
Adenitis (with abscess formation and skin involvement)	6	Carbon Arc	4	—	2	—
	1	Carbon Arc and Merc. Vapour	—	1	—	—
Adenitis without abscess	2	Carbon Arc	2	—	—	—
	1	Carbon Arc and Merc. Vapour	1	—	—	—
Elbow with sinus	1	Carbon Arc	1	—	—	—
Spine with sinus	1	Mercury Vapour	1	—	—	—
Hip with sinus ...	1	Carbon Arc	1	—	—	—
Ankle with sinus...	2	Carbon Arc	1	—	1	—
Forearm with sinus	1	Carbon Arc	1	—	—	—
Femur with sinus	1	Carbon Arc	—	1	—	—
Rib with sinus ...	1	Carbon Arc	—	—	1	—
Spine	2	Carbon Arc	1	—	—	1
Wrist	1	Carbon Arc	1	—	—	—
Clavicle, Elbow and Lungs	1	Carbon Arc	—	1	—	—
Knee and Lungs ...	1	Carbon Arc and Merc. Vapour	—	—	—	1
Femur, Os pubis and Lungs ...	1	Carbon Arc	—	—	—	1
Ankle and Lungs...	1	Carbon Arc	—	1	—	—
Other lesions ...	7	Carbon Arc	—	4	3	—
Total ...	37	33 Carbon A. 1 Mer. Vap. 3 C.A. & M.V.	15	10	9	3
Adults Chn. 22 15						

Weights of Patients.

The weights of all patients attending are now taken once per week. The patients who concluded treatment with disease "quiescent and apparently cured" on the average gained slightly in weight.

Dosage and Effect on the Skin.

Dr. Brunwin states that :---

"The exposures with iron-cored carbons varied from three to ten minutes, and with plain carbons varied from five minutes to one hour, the patients being a distance of 30 inches from the lamp. Usually a good erythema is obtained, but no deep pigmentation.

"Only half the body was exposed, as a rule, at each session. The irradiation of only half the body was done as a compromise between the usual system of irradiating the whole body and that of Professor Leonard Hill, who states that equally good results are produced by irradiating one quarter of the body at each sitting. It would not be easy to determine the best method except over a long period of observation. I incline to the view that irradiation of the whole body at each sitting is to be preferred; at any rate, in patients coming from a distance the mental effect of the longer period of treatment cannot be ignored.

"It is also difficult to determine the relative effect of treatment with plain carbons and iron-cored carbons. When the current is limited, as is the case at Lancaster, the latter are essential, but if there is adequate electric power I think it probable that long exposures with plain carbons are preferable. There are probably more red, infra-red, and long-wave ultra-violet rays produced by plain carbons, which doubtless have some good effect, and the long exposure of the naked skin to air is a beneficial factor."

The carbon arc was first used at 15 ampères with plain carbons, but the results were disappointing. The ampèrage was then raised to 17 and 18, and iron-cored carbons employed when it was found that the efficiency of the lamps (as judged by reaction of the skin), was increased about six-fold. The lamp is capable of taking an ampèrage of 30. Patients attend twice weekly.

THE COST OF LIGHT TREATMENT AND ITS RELATION TO NUMBER OF HOSPITAL BEDS REQUIRED.

The cost of the artificial light treatment at the two experimental centres is as follows :—

	Ashton Dispensary.	Lancaster Dispensary.
	s. d.	s. d.
(1) Average cost per patient per week—		
Current and carbons only	0 3*	1 6†
Standing Charges, <i>i.e.</i> , proportion of time of Tuberculosis Officer, Tuberculosis Health Visitor, fuel, light, rent, rates, and depreciation	2 3	5 4‡
Total	<u>2 6</u>	<u>6 10</u>
(2) Purchase of lamps and subsidiary light equipment	£333	£105
(3) Number of cases treated	150	51

* Motor generator provided at Ashton Dispensary.

† Lancaster Corporation will only supply at "lighting" rate of 9d. per unit.

‡ The cost at Lancaster is greater than at Ashton owing to the smaller number of patients treated.

The cost of light treatment should, however, be considered in conjunction with other forms of treatment which otherwise some of the patients would in all probability have received. Taking the 91 cases which have become quiescent after treatment at the Ashton-under-Lyne centre, Dr. Stewart reports that, but for the availability of light treatment, he would have recommended five of the cases for admission to orthopædic hospitals, 33 for general hospitals, and 22 for out-patient treatment at the Manchester Skin Hospital.

Knowing the average duration of institutional treatment for such cases and the cost, one can make a comparison between the expense involved in light treatment for these 60 patients and ordinary institutional treatment :—

Estimated complete cost of 60 patients cured by light treatment at Ashton Dispensary, £300.	Estimated cost of residential and out-patient treatment if patients had been sent to general and special hospitals, £1,150.
--	--

Thus, apart from other considerations, a very considerable financial saving—£850—has been effected on the treatment of these 60 patients.

Related to the opening of the two light centres, and supporting the statement of Dr. Stewart as to the saving of institutional treatment, it is noticeable that the number of beds in occupation at general hospitals at the end of 1926 is less than previous years :—

Dec. 31st, 1926—Number of beds occupied in general					
		hospitals	...	...	...
Do.	1925—	do.		do.	...
Do.	1924—	do.		do.	...
Do.	1923—	do.		do.	...

Similarly, the number of cases attending the skin hospital out-patient department has declined :—

Dec. 31st, 1926—No. of patients attending skin hospital				
Do.	1925—	do.	do.	...
Do.	1924—	do.	do.	...
Do.	1923—	do.	do.	...

SUMMARY AND CONCLUSIONS.

1.—*Lamps.*

The experimental work, during which six different types of lamp have been used, has shown that the most suitable light equipment for a tuberculosis dispensary serving a populous area is :—

Two long-flame carbon arc lamps.

One Jesionek (or Hanovia) mercury vapour lamp.

One Kromayer water-cooled mercury vapour lamp.

The current available for the long-flame carbon arcs should be not less than 25 ampères; normally the lamps are worked at 30 ampères. The Kromayer lamp may be omitted if there is an insufficient number of cases for local treatment.

The carbon arc lamp, “Alpine Sun” pattern, was ineffective for light treatment at 15 ampères with plain carbons; when raised to 17 or 18 ampères and iron-cored carbons employed, it proved better. This type of lamp requires the whole attention of the nurse. The voltage for the long-flame carbon arcs was 100, and for the “Alpine Sun” 40 for each of four arcs.

2.—*Capital Cost of Equipment.*

The total initial outlay on light equipment at Ashton-under-Lyne was £333 (including motor generator), and at Lancaster £105.

3.—*Accommodation.*

The accommodation found most convenient and suitable for a light centre consists of :—

One lofty, well-ventilated room, with not less than 200 sq. ft. of floor space, for general treatment.

One small room for the Kromayer lamp.

Two dressing-rooms, if possible.

Waiting-room or rooms, with use of lavatory.

4.—*Frequency of Attendance.*

The frequency of patients' attendances is found to be most satisfactory at three times per week ; it is desirable to have an interval of at least a day between one exposure and another. Many patients are, however, only able to attend twice per week, and quite good results are obtained, although the progress made is not so rapid. For the convenience of those who are working, an evening session is necessary. Another factor which hindered patients receiving treatment was the cost of travelling to and from the dispensary several times per week.

5.—*The Staffing of the Experimental Dispensary Light Centres.*

The treatment of the patients has been carried out under the supervision of the consultant tuberculosis officer and his assistant. The amount of supervision varies with the type of cases treated ; but a large amount of time, especially at the commencement of this special work, has been required.

Experience has shown most clearly that it is very desirable to have one nurse in charge of the light department, who will be responsible for all the arrangements and for all the records, particularly when a Kromayer lamp forms part of the equipment. The other nurses in the area should, in rotation, assist in the light treatment.

No extra medical or nursing staff has been engaged during the experimental work, but the work has only been carried out by means of much overtime and some diminution of other work. The work cannot be indefinitely increased without interfering seriously with the other duties of the dispensary staff, particularly in regard to the prevention of infection in the home, which is of paramount importance.

6.—*Duration of Treatment.*

The average duration of light treatment of the 91 patients at the Ashton-under-Lyne Centre who completed treatment on becoming quiescent and apparently cured was slightly less than 10 months ;

previous to commencing light treatment, these patients had an average of 63 months treatment by other methods, *e.g.*, institutional, out-patient, dispensary and home treatment.

At the Lancaster Centre, the average duration of light treatment of 15 patients similarly completing light treatment was 3 months against an average of 38 months by other methods of treatment previously.

7.—*Cost of Light Treatment at Dispensaries and Saving on Institutional Treatment.*

In the statement on page 22, the costs of the lamps and electric current, etc., are given in detail. It is clear that a considerable number of non-pulmonary cases which would otherwise be sent to institutions for residential or out-patient treatment will be suitable for light treatment at dispensaries with greater economy and not less beneficial results. For instance, of the 91 quiescent cases after light treatment at the Ashton-under-Lyne Dispensary, the consultant tuberculosis officer would normally have recommended 5 for sanatorium (pulmonary or orthopædic), 33 for general hospital, and 22 for treatment at the skin hospital as out-patients. Based on the known average duration of treatment for such cases, the cost of their treatment would have been not less than £1,150, whereas their treatment at the light centre cost (all inclusive), £300, a saving of £850.

Apart from the greater benefit to patients by the establishment of light centres in 15 or so of the tuberculosis dispensaries, the cost and saving may be estimated as follows :—

Capital Cost.

Initial capital cost of purchase of light equipment (including the equipment at Ashton, Lancaster and Chorley already purchased), to be wholly depreciated in five years, £1,950.

Revenue Costs.

Estimated cost (current, staff, proportion of overhead charges, depreciation at one-fifth of capital cost of £1,950) of running light centres for one year, when all 15 centres opened,
£5,780

Revenue Savings.

Estimated saving (based on Ashton experience) in cost of residential and other special treatment by treatment of patients at light centres,
£6,000

The foregoing figures are conservative estimates, based on the experience at Ashton, with an addition for the probable higher cost of current at other dispensaries. For depreciation purposes, the life of the plant has been estimated at five years.

8.—*Results of Light Treatment.*

(a) Artificial light treatment for cases of non-pulmonary tuberculosis has given very good results in two groups of cases, namely, (1) lupus and (2) adenitis with abscess formation and skin involvement. It is well-known how refractory these conditions usually are to other forms of treatment. These good results for groups (1) and (2) have been achieved at the Ashton-under-Lyne Centre, and at Lancaster for group (2) as the following Table 7 shows :—

Lesion.	Light Centre.	No. of cases treated.	Condition on 1/1/27.			
			Quiescent & apparently cured.	Improved and still under treatment.	Stationary.	Worse.
Lupus 	Ashton u- Lyne	48	21	27	—	—
Adenitis (with abscess forma- tion and skin involvement)	Do.	29	26	2	1	—
	Lancaster	7	4	1	2	—

These results are remarkably good, particularly when it is remembered that many of the lupus cases had been under treatment for so long as 20 to 40 years prior to commencing light treatment.

(b) The results of treatment of other types of cases, *e.g.*, tuberculosis of bones and joints, adenitis (without softening, &c.), have also been satisfactory, although the proof of the efficiency of light treatment is not so striking because those cases also respond fairly satisfactorily to other forms of treatment.

(c) Very few cases of pulmonary tuberculosis have been treated. Out of 5, 1 received no improvement, and the other 4 became rather worse.

(d) No general rule can be laid down as to how particular persons will react to the light as the response to the treatment varies within very wide limits. It cannot be too strongly emphasised that each patient must receive individual treatment and attention so far as initial exposure and graduation of exposure is concerned. In every case a test exposure should be made before beginning treatment in order to ascertain sensitivity of the skin.

(e) The attendance of patients who commenced treatment has been very good.

(f) No permanent ill-effect, either local or general, has been caused by artificial light treatment.

PROVISION OF LIGHT TREATMENT FOR WHOLE ADMINISTRATIVE
COUNTY.

The following table shows the number of cases of non-pulmonary tuberculosis in the several dispensary areas and the approximate numbers of patients who are likely to benefit by artificial light treatment :—

TABLE 8.

Dispensary Area.	Total Number of cases of Non-Pulmonary Tuberculosis on 31-12-26.	Approximate No. of cases of Non-Pulmonary Tuberculosis likely to benefit by Light Treatment.
1	562	195
2	425	193
3	761	240
4	809	254
5	932	230
Furness ...	75	52
Fylde ...	144	55
	3,708	1,219

Suitable Centres.

It would not be necessary or possible to establish a light centre at each existing dispensary, but a preliminary survey of the distribution of cases, the types of cases, the suitability of dispensary premises, the electricity supply, and the best utilisation of existing medical and nursing staffs, indicates that the provision of light apparatus should eventually be considered for the following dispensaries :—

Area 1.—Lancaster and Chorley (experimental installations already made), and Preston.

Area 2.—Stacksteads, Nelson and Accrington.

Area 3.—Ashton-under-Lyne (experimental installation already made), and Radcliffe.

Area 4.—Eccles and Leigh.

Area 5.—St. Helens, Seaforth and Wigan (or Hindley, if and when new premises are obtained).

Furness.—Ulverston.

Fylde. —Fleetwood.

The cost of equipping a centre with light apparatus would vary from £75 to £250, according to the number of lamps needed to deal with the cases, and particularly the supply of electric current. In one or two instances, as had to be done at Ashton-under-Lyne, it may be necessary, in order to overcome an inadequate supply, to provide a small motor generator, costing up to £100. Any such initial outlay on a generator reduces the cost of current, so that the cost of a generator may be repaid by the saving effected within a few years.

While light treatment at dispensaries near patients' homes would save in the long run much institutional accommodation, it must be remembered that there are several forms of non-pulmonary tuberculosis which can only be properly treated at special hospitals ; for example, there are cases requiring correction of deformities, bed-ridden cases, cases with severe complications, and cases requiring surgical interference. The institutional accommodation available for these types of patients has always been inadequate, particularly for adults, both in the County as well as in the rest of the country at large, and the modified scheme to improve the accommodation by the adaptation of Wrightington Hall will not be affected so far as can be seen by the provision of artificial light centres at dispensaries.

The result of the experimental work on artificial light treatment was reported in August, 1927, to the Lancashire County Council, and it was decided that artificial light treatment should be provided at 15 of the existing dispensaries (including the three light centres already opened at Ashton-under-Lyne, Lancaster and Chorley), subject to the approval of the Ministry of Health. The immediate proposals are for the provision of light centres in the dispensaries at Stacksteads (dispensary area 2), Eccles (area 4) and St. Helens (area 5).

The Council also decided to augment the medical and nursing staffs in order to enable the additional work to be carried out.

The railway, bus or tram fares of necessitous patients attending the light centres will, on the recommendation of the tuberculosis officers, be defrayed by the County Council.

THE VALUE OF X-RAY EXAMINATIONS IN NON-PULMONARY TUBERCULOSIS.

An X-ray apparatus is available for use by each of the consultant tuberculosis officers of the five large dispensary areas (containing an average population of nearly 350,000) and the two sub-areas of Furness and Fylde, into which the Administrative County is divided. Altogether there are nine X-ray plants—five at the dispensaries and four at County sanatoria and hospitals. More and more use is being made of the apparatus to assist in the diagnosis and treatment of tuberculosis. In 1926, 4,440 skiagrams were taken of dispensary patients and 351 of institutional patients giving a total of 4,791 as against 4,115 in the previous year. It was not necessary to send any patients to private radiologists.

This method, whereby the tuberculosis staff carry out their own X-ray work, has many advantages, clinical and economic. Patients can be seen near their homes, and as often as may be required. When the clinician interprets his own skiagrams, the diagnosis and prognosis are more accurate. Finally, the expense is very much less—about five times—when compared with X-ray work done at a distant centre and by private radiologists.

In the annual reports for the past two years I have had reproduced a number of skiagrams of interesting pulmonary cases, and this year I have selected, with the assistance of Dr. J. Logan Stewart, the consultant tuberculosis officer for Dispensary Area 3, a special series of non-pulmonary cases.

I am much indebted to Dr. Stewart for the rest of this chapter, and for the notes on the photographs, some being his own, and the rest taken by other senior members of the tuberculosis staff.

Non-pulmonary tuberculosis supplies a fair proportion of the cases examined by X-rays at a tuberculosis dispensary. At the chief dispensary in Area 3 during the past six years 1,113 skiagrams of non-pulmonary cases have been taken as compared with 6,488 skiagrams of pulmonary cases.

The localisation of the non-pulmonary skiagrams was as follows :—

Hip	290	Spine	226
Knee	150	Hand	112
Elbow	81	Ankle	73
Foot	59	Wrist	39
Shoulder	31	Other parts	52
Total		1,113.	

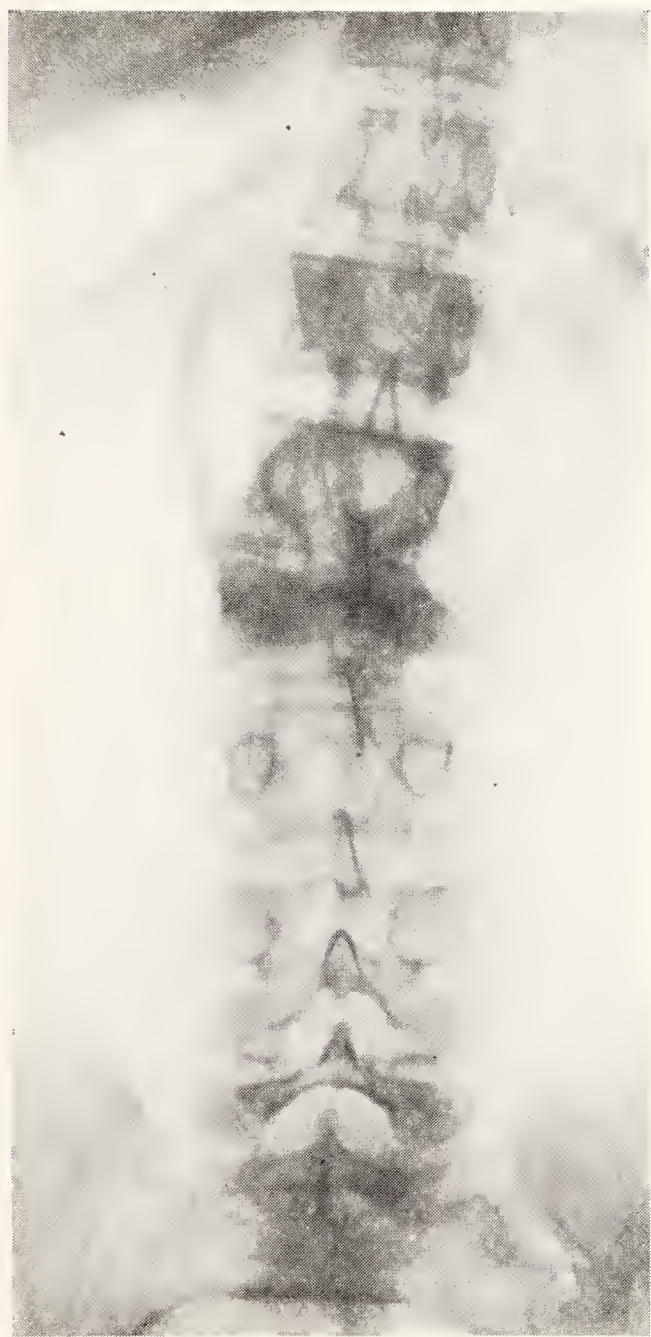
What has already been said in previous reports regarding X-ray examination of chest cases should again be emphasised in regard to non-pulmonary cases, viz., that the X-ray examination is part of the clinical examination, and the diagnosis is made on all the evidence available and not on the skiagram only.

On the whole, the clinical evidence carries one farther towards a final diagnosis in bone and joint tuberculosis than in pulmonary. The parts are more accessible to examination, symptoms are more localised, and interference with function makes itself evident at an earlier stage. There are, therefore, fewer surprises for the tuberculosis officer than in pulmonary X-ray work. Still, the skiagram in non-pulmonary cases may be of great value, and there is a percentage of cases where it supplies just that additional evidence which decides the clinician in his diagnosis.

In the earliest stage of bone and joint tuberculosis, there is no doubt that the skiagram may fail in some cases to reveal any abnormality, although symptoms suggest strongly that disease is present, and at a later date confirmatory X-ray evidence is obtainable. This applies especially to tuberculosis of the hip joint, knee joint and spine. Localised pain and tenderness, with limitation of movement, may be present before there is recognisable deformity, and before there is definite X-ray evidence. The absence of X-ray findings must not, therefore, be accepted as proof that tuberculosis is not present.

In non-pulmonary work, shortness of exposure is not so necessary as in chest work, except in the case of very young children. The Potter-Bucky diaphragm, which prevents the effects of secondary radiation, is of very great value.

It is important in many cases to take skiagrams of the affected part in more than one position of the patient. An antero-posterior skiagram of the spine may fail to reveal any lesion, but a lateral view may show clearly the presence of an early lesion affecting the anterior surface of one of the vertebrae. In one case, a lateral view of the knee



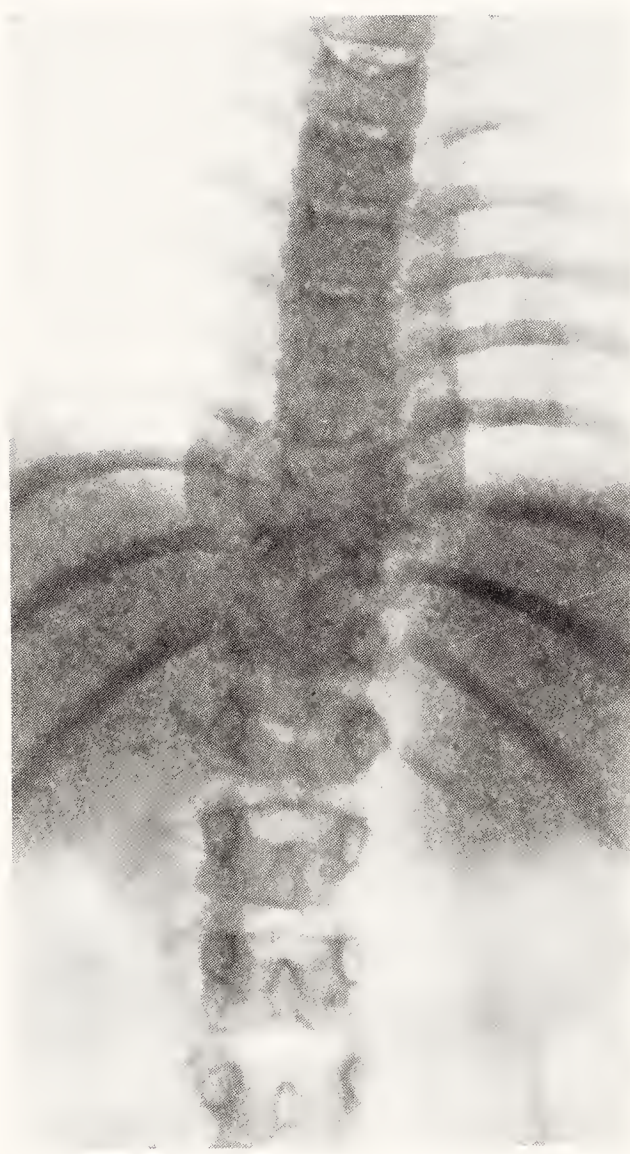
SKIAGRAM No. 1.—Tuberculosis of spine involving two lumbar vertebræ, at commencement of treatment in Elswick Sanatorium. Note the lateral displacement.



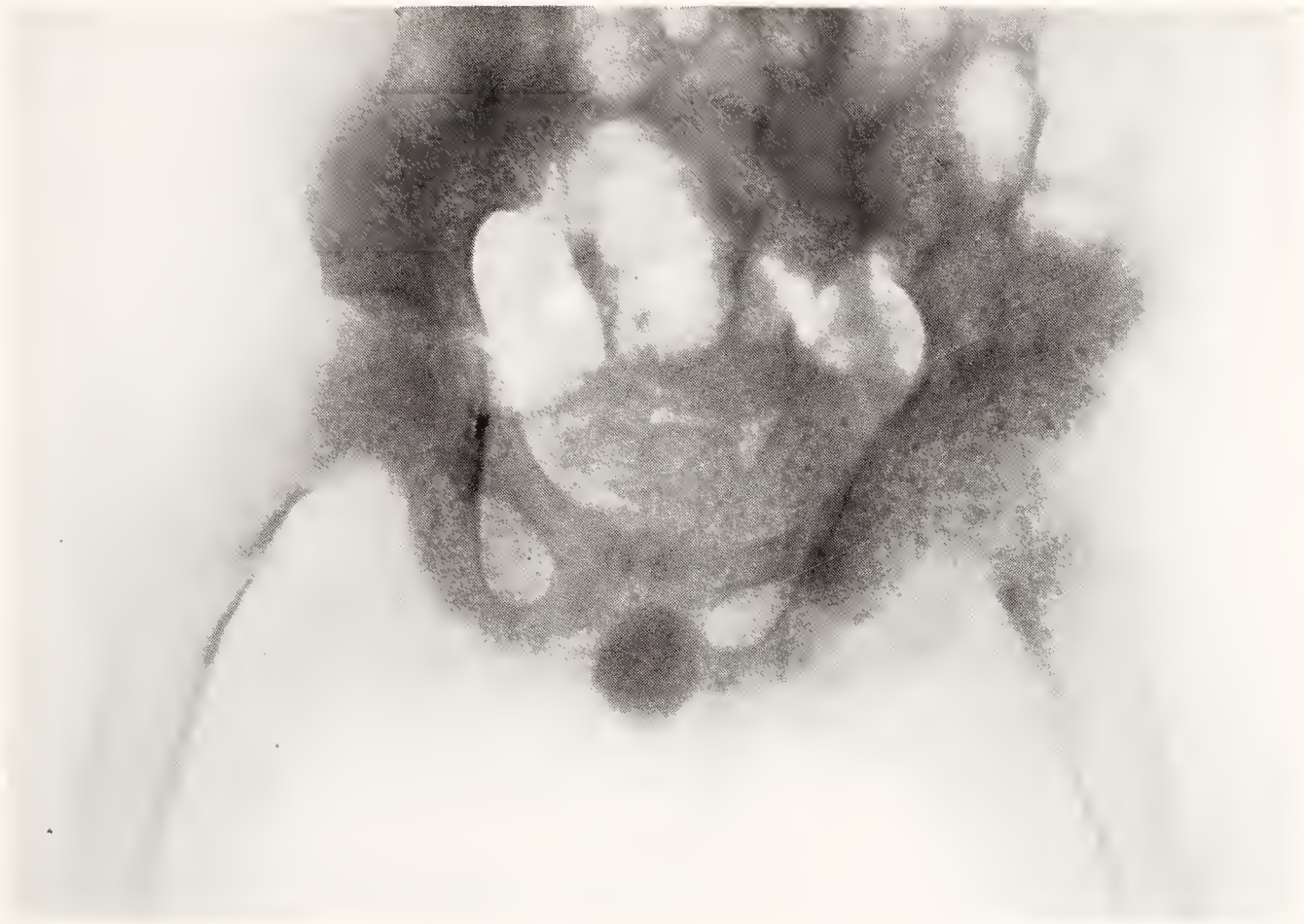
SKIAGRAM No. 2.—The same case after 11 months treatment by rest, immobilization, etc. Disease at first extended, but later became quiescent. Deformity now corrected and firm bony union of vertebræ.



SKIAGRAM No. 3.—Tuberculosis of spine involving several dorsal vertebræ, with lateral displacement. Peri-vertebral thickening, possibly abscess.



SKIAGRAM No. 4.—The same case after 10 months treatment at Elswick Sanatorium. Correction of deformity. Disease becoming quiescent.



SKIAGRAM No. 5.—Acute progressive tuberculosis of left hip joint. Complete destruction of joint. Patient on abduction frame. (Institutional treatment was refused by parents until this condition of joint developed).

RIGHT SIDE

LEFT SIDE



SKIAGRAM No. 6.—Quiescent Tuberculosis right hip joint. Head of femur partly destroyed. Considerable displacement upwards (compare Shenton's line). Travelling acetabulum.

RIGHT SIDE

LEFT SIDE



SKIAGRAM No. 7.—Tuberculosis of knee joint with ankylosis. Some subluxation of tibia and union of patella with femur.

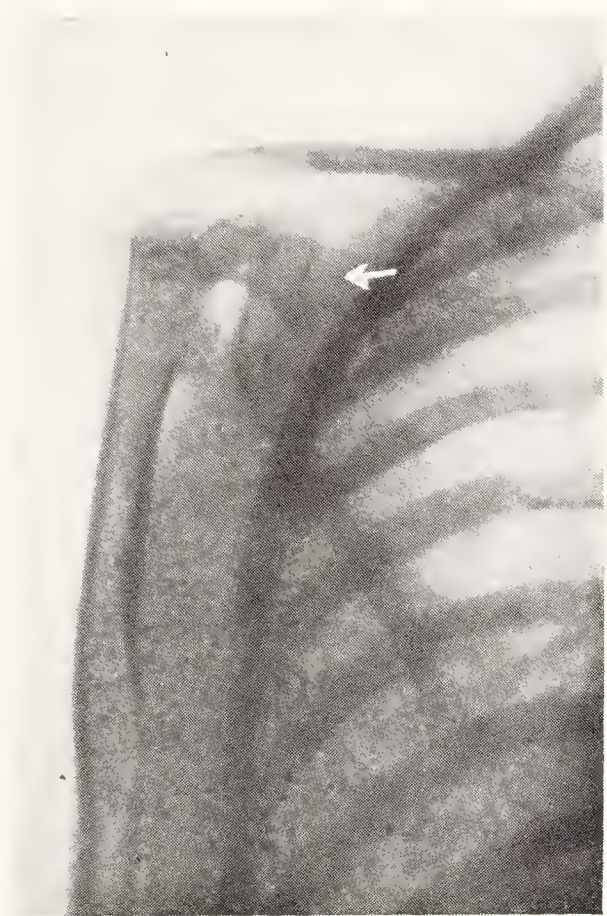
SKIAGRAM No. 8.—Tuberculosis of os calcis.



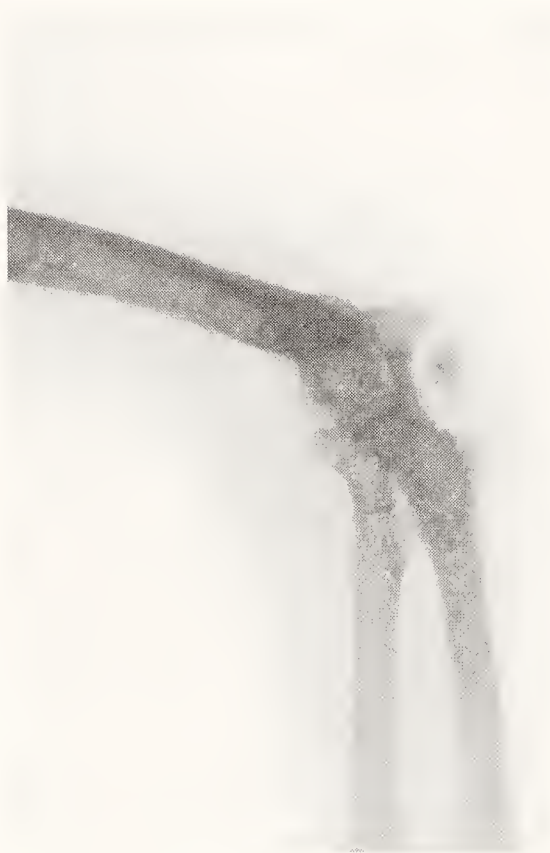
Normal Joint.

Diseased Joint.

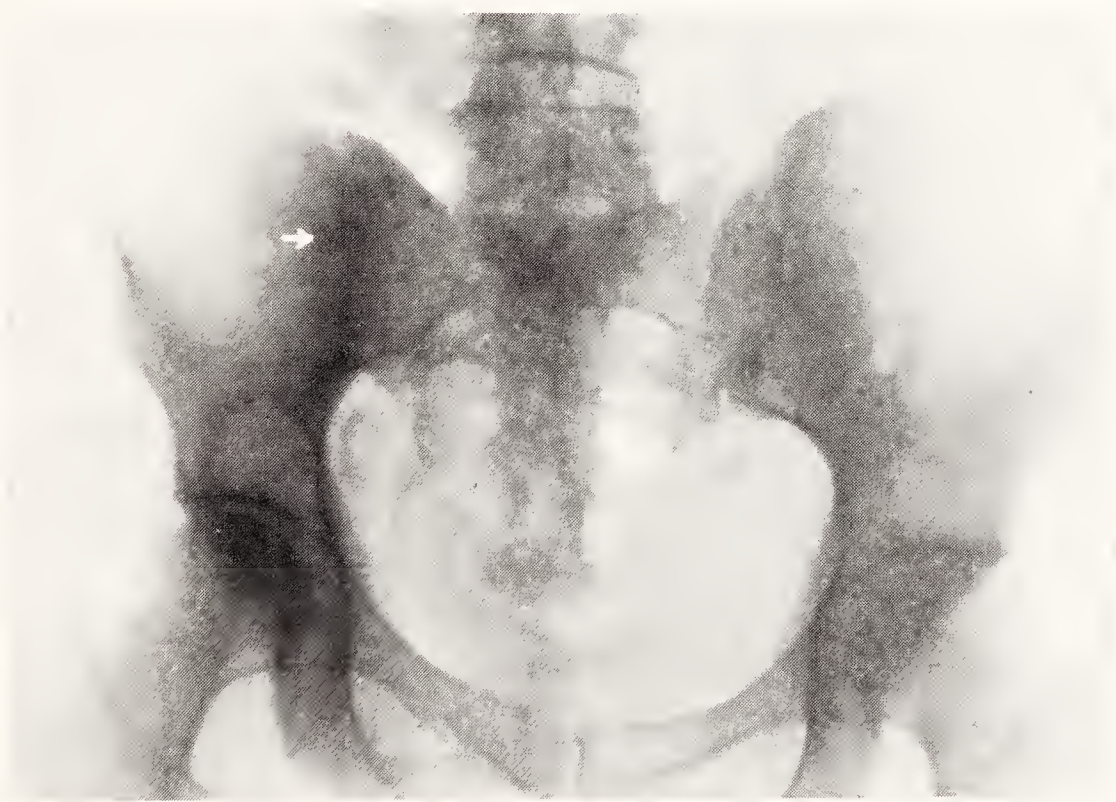
SKIAGRAM No. 9.—Tuberculosis of wrist joint (caries sicca).



SKIAGRAM NO. 10.—Old tuberculosis of right shoulder joint. Destruction of head of humerus, and glenoid cavity involved. Ankylosis at one point.



SKIAGRAM NO. 11.—Tuberculosis of olecranon process of ulna. Note large cavity in bone with sequestrum.



SKIAGRAM NO. 12.—Tuberculosis of right sacro-iliac synchondrosis. Condition now cured, with bony ankylosis. Note deformity of pelvis.

RIGHT SIDE.

LEFT SIDE.

joint showed the presence of a spur of bone, invisible in the antero-posterior skiagram, which explained the pain which had led the patient's doctor to suspect tuberculosis.

It is in the exclusion of other diseases that the X-ray examination of non-pulmonary cases has proved most useful at the tuberculosis dispensary. In the earliest stages it is, for example, often difficult clinically to distinguish between hip joint tuberculosis and pseudo-coxalgia, and the skiagram may in some cases decide the matter. Early osteo-arthritis of the hip, early spondylitis deformans, Köhler's disease, and Schlatter's disease are other conditions where the X-ray evidence is very valuable.

The following list of non-tuberculous conditions, which have been detected at the dispensaries among patients sent for diagnosis, may be interesting :—

Spine.—Spondylitis deformans, scoliosis, secondary malignant growths, tumour of spinal nerve, old compression fracture.

Hip.—Pseudo-coxalgia, arthritis deformans, congenital dislocation, fracture of neck of femur, coxa vara, peri-nephritic abscess, and abdominal conditions which had caused spasmodic flexion at the hip.

Other joints and bones.—Osteo-myelitis, pyaemic abscess of bone, syphilis of bone, Charcot's disease, Schlatter's disease, Köhler's disease, rheumatoid arthritis, old fractures, tumours (simple and malignant), bony spurs, septic arthritis, foreign body in joint, renal calculus.

In the exclusion of such conditions as these, it is evident, therefore, that there is ample scope for the use of X-ray apparatus in non-pulmonary conditions as well as pulmonary.

In addition to the help afforded in diagnosis, skiagrams of cases taken at intervals during treatment supply evidence of the changes taking place in the affected part, the amount of tissue destroyed, and the nature of the deformity, if any, that is taking place; and the skiagram may decide the question as to whether operative interference is, or is not necessary.

When an active case of pulmonary or non-pulmonary tuberculosis is brought under treatment by rest, immobilisation, etc., the destructive process does not necessarily stop at once. It runs a course like any other inflammatory disease due to infection, which will end only when the patient has developed sufficient immunity. During this period of activity, the process of tissue destruction may, and often does extend,

and skiagrams are useful in showing the extent of this. These serial skiagrams help to show whether the measures taken to prevent the development of the deformity are succeeding, and help also to determine when the patient can be allowed greater freedom of movement, although in this respect clinical evidence must always be of paramount importance.

It is advisable in all cases of non-pulmonary tuberculosis to take a skiagram of the chest as well. In a number of cases a pulmonary lesion will be found which has become quiescent and is giving rise to no symptoms. The question of the behaviour of pulmonary lesions in these combined cases is one of great interest, and it is hoped to deal with this in detail in a future report.

Cases of multiple non-pulmonary lesions are also of considerable clinical interest. The fact that the patient is suffering from the disease in several parts of the body does not necessarily involve a bad prognosis. Some of the most brilliant recoveries have been obtained in just this type of case.

Skiagrams 1 to 12 are examples of tuberculosis lesions in various localities.

Skiagrams 13 to 28 are representative of non-tuberculous conditions found at the dispensaries in patients notified as suffering from tuberculosis, or suspected to be suffering from it.

The skiagrams reproduced in this chapter were taken by the consultant tuberculosis officers shown hereunder:—

No. 23, by Dr. B. MacPhee, at the Darwen Branch Dispensary (Area No. 2).

Nos. 5, 8, 10, 11, 12, 16, 17, 18, 19, 20, 21, 22, 24 and 26, by Dr. J. L. Stewart, at the Ashton-under-Lyne Chief Dispensary (Area No. 3).

Nos. 6 and 14, by Dr. G. Jessel, at the Eccles Branch Dispensary (Area No. 4).

Nos. 7, 13, 15, 27 and 28, by Dr. C. W. Laird, at the Seaforth Chief Dispensary (Area No. 5), and Rufford Pulmonary Hospital.

No. 9, by Dr. E. H. Allon Pask, at the High Carley Sanatorium.

Nos. 1, 2, 3, 4, and 25, by Dr. G. Leggat, at the Elswick Sanatorium.



SKIAGRAM No. 13.—Schlatter's discase. Partial separation of tubercle of tibia.



SKIAGRAM No. 14.—Köhler's disease. A chronic inflammatory process in the scaphoid bone shown by increased density of bone in the skiagram. Other bones of foot not affected. The cause of the condition is obscure. It is in many respects similar to that in pseudo-coxalgia and in Panncr's disease.



SKIAGRAM No. 15.—Renal calculi (stones in kidney).



SKIAGRAM No. 16.—Osteo-arthritis right hip joint. Note increased density and new bone formation.



SKIAGRAM No. 17.—Chondroma of first phalanx of index finger.



SKIAGRAM No. 18.—Deformity and atrophy of terminal phalanges due to lupus of skin of hand.



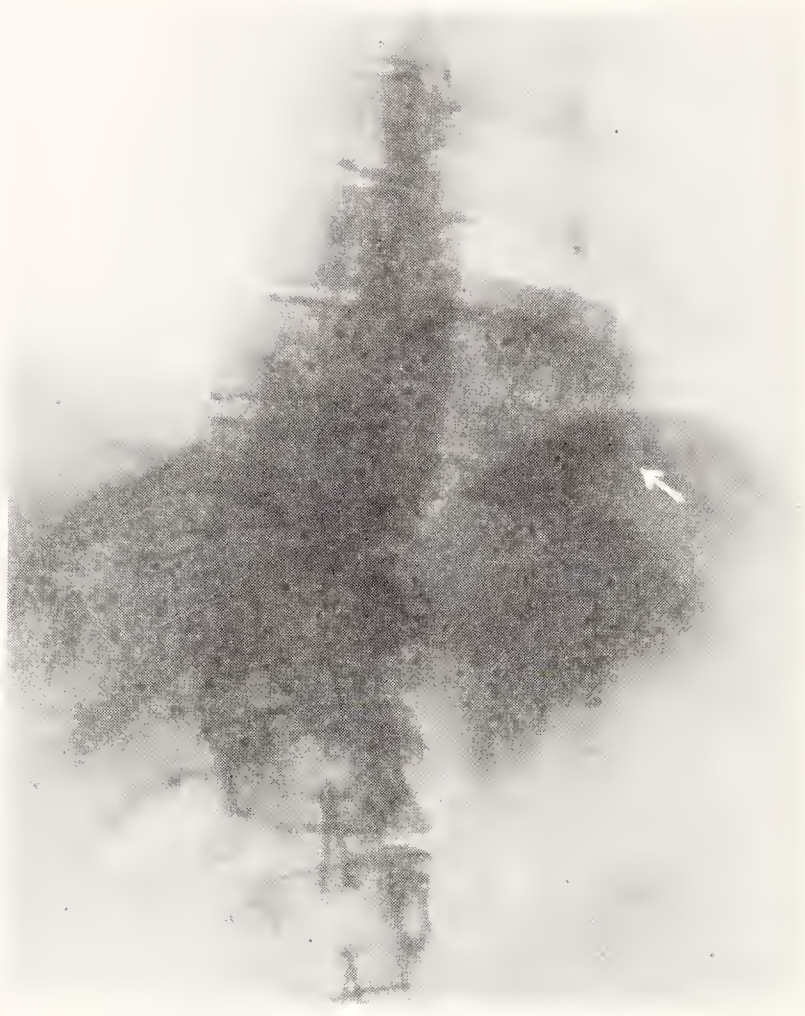
SKIAGRAM No. 19.—Second metacarpal bone broken up and largely destroyed as a result of acute septic inflammation. Abscess formation and extrusion of sequestrum. The condition after investigation was decided to be non-tuberculous.



SKIAGRAM No. 20.—The same case seven months afterwards, after a course of artificial light treatment. The bone has been renewed naturally and now differs little from the original metacarpal, except that it is a little shorter.



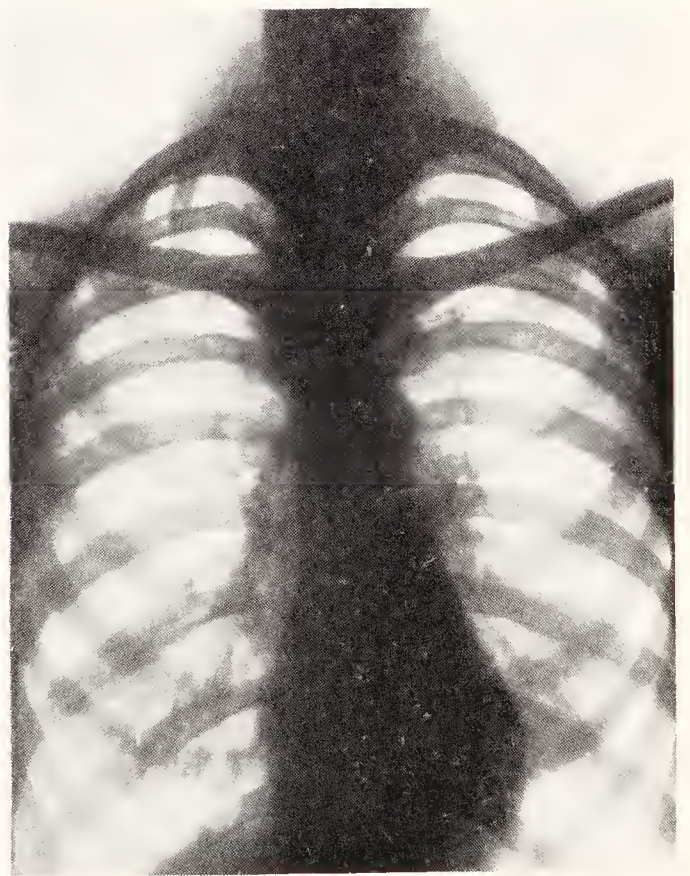
SKIAGRAM No. 21.—Pseudo-coxalgia. Flattening of epiphysis of femur with increased density and fragmentation. Practically no upward displacement. Thickening of neck of femur.



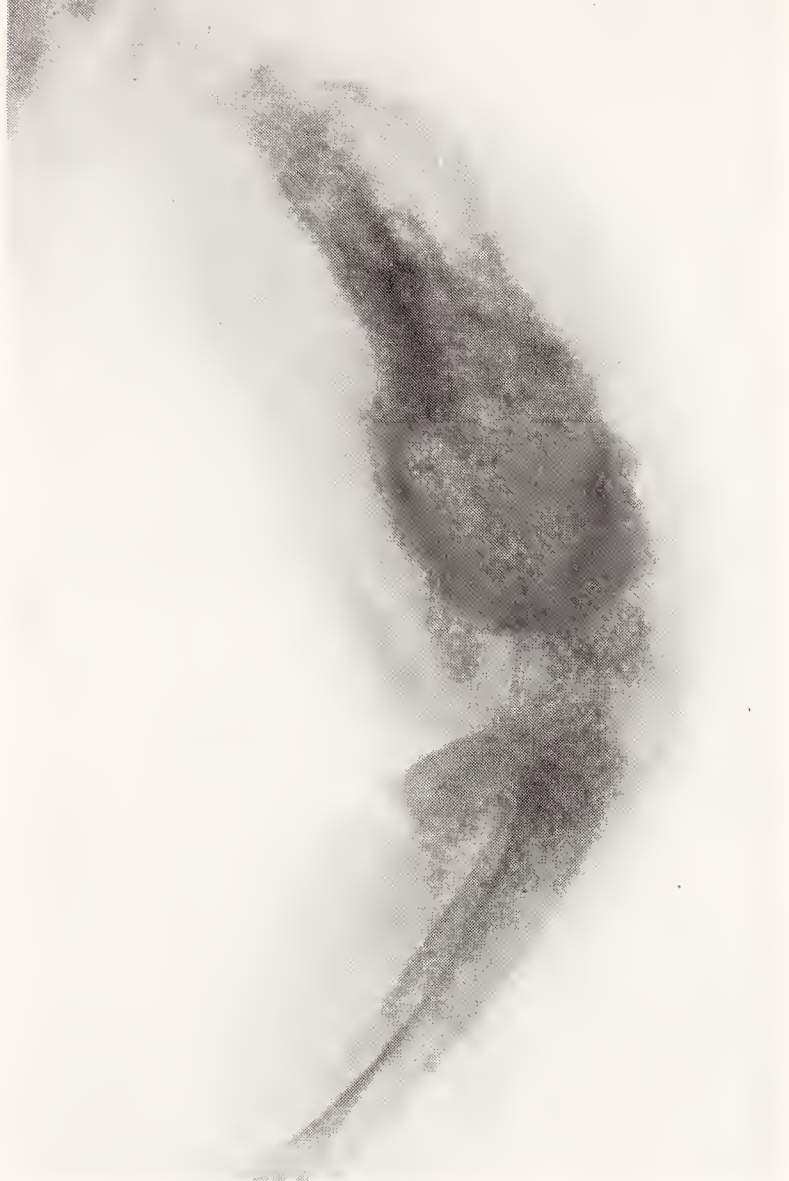
SKIAGRAM No. 22.—Tumour (fibroma) on posterior nerve root of 9th dorsal spinal nerve (post-mortem finding).



SKIAGRAM No. 23.—Unusual thoracic deformity. Bridge of bone occurring between 1st and 2nd ribs, with false joint. This had caused alteration in signs at right apex, and tuberculosis of the lung had been suspected. Skiagram and observation of the patient negated this. The abnormal signs were undoubtedly caused by the deformity.



SKIAGRAM No. 24.—Cervical rib right side. Cervical ribs are a fairly common finding at dispensary. They occur both in tuberculous and non-tuberculous cases, and do not appear to have any predisposing effect towards tuberculosis at the right apex.



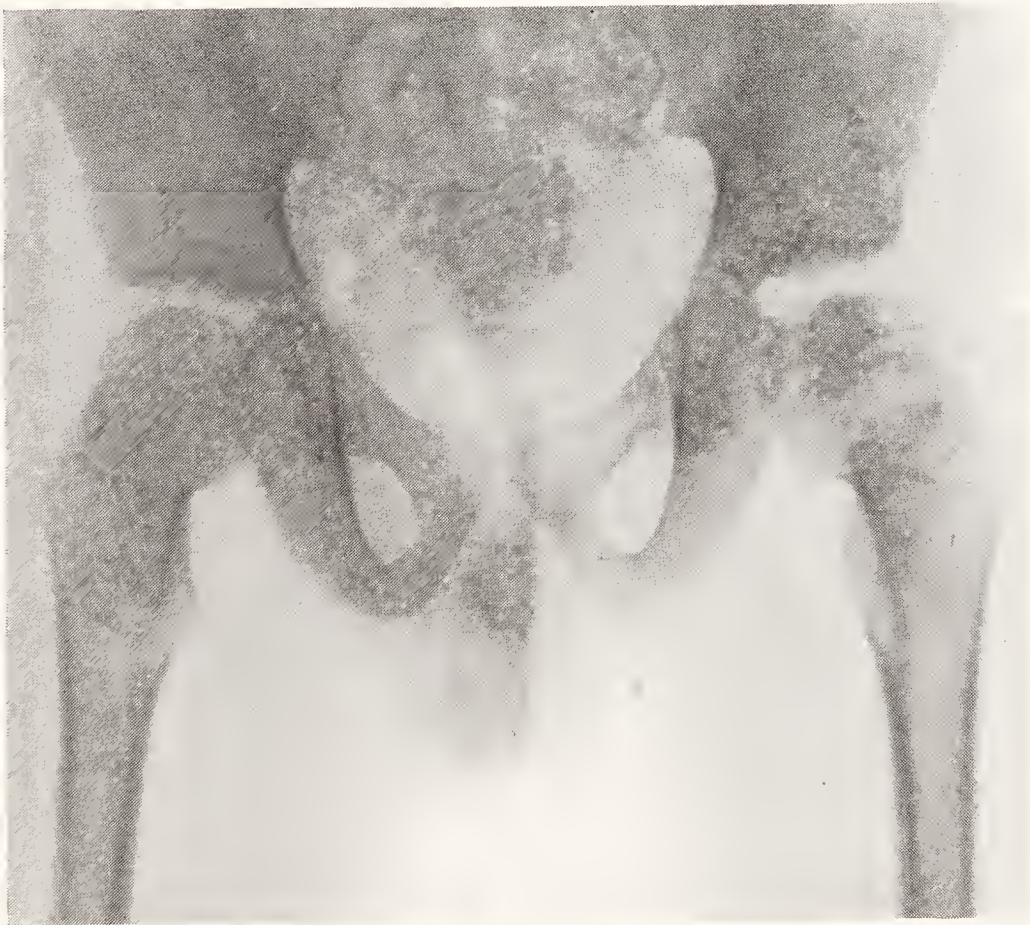
SKIAGRAM No. 25.—Acute osteo-myelitis of humerus in an infant.



SKIAGRAM No. 26.—Spondylitis deformans. Lumbar spine rigid. New bone formation indicated by lipping of vertebræ and bony union between upper and lower edges.



SKIAGRAM No. 27.—Very early case of pseudo-coxalgia. Slight increase of density of femoral epiphysis and very slight flattening. Slight thickening of neck. The case had been notified as one of tuberculosis of hip joint, but clinical progress of the case threw doubt on this.



SKIAGRAM No. 28.—The same case 10 months later. Appearances are now typical of pseudo-coxalgia. Compare with skiagram No. 21.

THE NOTIFICATION OF TUBERCULOSIS CASES.

It is the statutory duty of every medical practitioner to notify within 48 hours to the local medical officer of health any case of tuberculosis occurring in his practice, and the medical officer of health is charged with the duty of keeping a register of such cases reported in his sanitary district.

According to the returns made by the medical officers of health to the County Council for the last quarter of 1926 there was a total of 12,868 tuberculous persons on the registers of the 121 sanitary authorities in the County. This figure includes, however, all the notified cases in asylums, union infirmaries and other public institutions, and cases which are not suitable for treatment under the County scheme. Whilst the local registers are not all yet entirely correct, returns give a fairly dependable census of the total tuberculous persons in all circumstances in the Administrative County.

NON-NOTIFICATION.

During recent years I have directed special attention to the notification of cases of tuberculosis, and have engaged in correspondence with medical practitioners, medical officers of health, and medical superintendents over many individual cases.

In the Administrative County, the decline in the extent of non-notification of pulmonary and non-pulmonary cases is shown in the following statement :—

TABLE 9.

	1918	1919	1920	1921	1922	1923	1924	1925	1926
Proportion of non-notified fatal cases of <i>pulmonary</i> tuberculosis to total pulmonary deaths	18%	16%	13%	10%	8%	7%	5·2%	5·5%	5·0%
Proportion of non-notified fatal cases of <i>non-pulmonary</i> tuberculosis to total non-pulmonary deaths ...	31%	29%	30%	25%	21%	18%	19%	15%	11%

The actual numbers of deaths from both pulmonary and non-pulmonary tuberculosis since 1918 not previously notified under the Regulations, upon which the above percentages are calculated, are given in Table 28 on page 115.

The striking and progressive improvement which has been secured in the notification of cases of pulmonary and non-pulmonary tuberculosis before death would not have been practicable without the cordial co-operation of the local medical officers of health and, of course, the general practitioners who make the notifications.

There is no doubt that in this Administrative County a much smaller proportion of cases of tuberculosis escapes notification than is frequently the experience in other parts of the country. Thus, we have fewer unknown cases or unknown sources of infection remaining outside the measures for the control of tuberculosis, and, in my opinion, this better notification is helping materially to reduce the number of new cases occurring.

REASONS FOR NON-NOTIFICATION.

Since 1920 special investigations have been made into every individual death recorded from tuberculosis which had not been previously notified as a case under the Regulations, and the results of the investigations in 1926—which confirmed the findings of previous years—showed that 22 per cent. of the deaths at private addresses related mainly to fulminating cases of pulmonary tuberculosis in adults and acute cases of meningitis in children, with no doctor in attendance at all, or only for a matter of a few days prior to death. Again, in 32 per cent. notification was not made owing to a misunderstanding of the Tuberculosis Regulations or to the belief that the case had already been notified by another practitioner.

The efficiency of notification varies directly with the efficiency of the county council or county borough scheme dealing with tuberculosis. If there is no really comprehensive scheme, if there are poor and newly qualified part-time and badly paid tuberculosis officers, if there are insufficient means for expert diagnosis, and too few beds for treatment, then a high proportion of non-notified fatal cases will be the rule and not the exception.

TOTAL "KNOWN SOURCES OF INFECTION."

One effect of the better notification of cases by practitioners is to throw up the number of new cases in recent years and to make the figures disadvantageously comparable with the earlier years when a larger number of cases escaped notification.

It is, however, possible to obtain a truer record of the number of cases of pulmonary tuberculosis occurring year by year by adding

together (a) the notifications and (b) the deaths which occurred without notification being made during life ; this total gives clearly the number of known sources of infection as the following table shows :—

TABLE 10.

YEAR	Pulmonary Tuberculosis.		
	Cases Notified (during life)	Cases reported at time of death only.	Total known sources of infection.
1918	2,534	303	2,837
1919	2,105	221	2,326
1920	2,084	177	2,261
1921	2,044	135	2,179
1922	1,863	105	1,968
1923	1,937	85	2,022
1924	1,972	64	2,036
1925	1,846	67	1,913
1926	1,828	58	1,886

The decline in the number of “known sources of infection” of pulmonary tuberculosis is therefore considerably greater than the fall in the notified cases if taken alone.

THE COUNTY SCHEME FOR THE TREATMENT OF ADULTS AND CHILDREN SUFFERING FROM NON-PULMONARY TUBERCULOSIS.

INTRODUCTION.

It is well known that the tubercle bacillus attacks not only the lungs, but other parts of the body, in a great many men, women and children. Lupus, meningitis, bone and joint disease, glandular affections—these are known to everyone. The number of new cases is decreasing, owing in part, at any rate, to preventive medicine, but the number of living non-pulmonary cases in the whole Administrative County of Lancaster is still a very large one; the tuberculosis medical staff have, out of a population of 1,788,500, under supervision 2,093 adults and 1,615 children. Fortunately, less than half of these are active cases, and already 1,337 cases which have completed three years without symptoms have been written off the register as cured, while a further considerable number of cases are about to be dealt with similarly; for non-pulmonary tuberculosis, under new and modern methods, is curable in a large number of cases, provided prolonged treatment can be given. In children, 80 to 90 per cent. of cases can be cured where the infection is in the bones and joints.

THE COUNTY SCHEME.

(a) Dispensary Unit, including “after-care.”

In dealing with tuberculosis, the County scheme embraces the whole Administrative County area, *i.e.*, it includes the autonomous education areas like Lancaster, Nelson, Ashton-under-Lyne, Eccles and Stretford, and it is in such areas that more than half of the cases exist. The tuberculosis officers see at the dispensaries or the homes all the cases—adults and children—notified or sent for an opinion as to diagnosis.

So that the medical staff might deal efficiently with this work, especially among children, the County Council sent all, in turn, to study at the Lord Mayor Treloar Cripples' Hospital at Alton, under Sir Henry Gauvain—a most valuable step. In addition, three of the consultant tuberculosis officers have attended recent post-graduate courses on the treatment of non-pulmonary tuberculosis. As a consequence, the staff is well qualified to deal with its part of the work—the diagnosing and treatment of cases at the dispensaries or the homes. Selected patients with discharging wounds are dressed as required, while suitable cases are now receiving light treatment at two dispensaries; others are supplied with surgical appliances or special nourishment, which grants, to earn the Ministry's contribution, must

be on the recommendation of the tuberculosis officer. The patients are also eligible to receive other benefits under the County tuberculosis scheme, *e.g.*, loan of nursing utensils, spinal carriages, invalid chairs, and so on, grants from the care fund, X-ray examinations by the tuberculosis officers, and artificial light treatment. The disease is essentially a constitutional one, the home conditions are of great importance, and contact cases of non-pulmonary patients require examination and supervision. A non-pulmonary case not infrequently occurs in the same household as a case of consumption. The latter is often the source of infection of the former.

On the whole, not a great many cases of non-pulmonary tuberculosis require major operations, although medical opinion is not unanimous on this point. Through the dispensary organisation patients requiring major operations are sent either direct to a hospital or (where the diagnosis has been of special difficulty) to the out-patient department of such hospitals as the Ancoats Hospital, Manchester, the David Lewis Northern Hospital, Liverpool, and the Myrtle Street Hospital, Liverpool.

The co-operation with family doctors, the medical staff of voluntary hospitals, and school medical officers is shown by the following table, giving the source of the non-pulmonary cases either sent for diagnosis or notified in the County in 1926 :—

At family doctor's request	291
By notification under statutory regulations	278
At request of medical staff of voluntary hospitals ...	93
At request of school medical officers	74
At request of Pensions Committees and other bodies ...	6
Discovered by tuberculosis officers as "contacts" ...	26
Transfers from other areas	7
At patient's own request (no doctor in attendance) ...	4
<hr/>	
Total non-pulmonary applications for the year 1926 ...	779
<hr/>	

The County Tuberculosis Committee have, besides the medical staff, a number of nurses (4 to 6) in each dispensary area. Some of the nurses, who have been appointed on the staff during the past few years, have been selected because of their knowledge of surgical tuberculosis.

Thus throughout the County the dispensaries are the centres of "after-care" for the non-pulmonary cases.

(b) *The Hospital or Institutional Unit.*

The number of beds occupied by County patients suffering from

non-pulmonary tuberculosis in special and general hospitals at the beginning of July, 1927, was as follows :—

		No. of Beds 1/7/27, Adults. Children.	
Special Hospitals (<i>e.g.</i> , Leasowe, Alton, Heather- wood, Heswall, Shropshire Orthopædic, Elswick Sanatorium, West Kirby and Sheffield)	77	107	
General Hospitals and Infirmaries (<i>e.g.</i> , Ancoats, Ashton-under-Lyne, Blackburn, Manchester, Preston, Salford, Warrington and Wigan)...	26	11	
	103	118	

Number of beds occupied on 1st July, 1927 ... 221

Patients suffering from tuberculosis of the skin (lupus) are now either receiving artificial light treatment at certain County dispensaries or are sent to the out-patient department of the Manchester and Salford Hospital for Skin Diseases, travelling as directed, at intervals of one, two, four or more weeks.

By taking beds at various institutions outside the County as far away as Hampshire, Berkshire and Northumberland when the opportunity presented itself, the position in regard to accommodation for children has been improved a little during the past few years ; but, on the other hand, there is a serious lack of accommodation at suitable hospitals for adult cases, particularly the difficult “ combined ” cases of pulmonary and non-pulmonary tuberculosis ; the deficiency in this type of accommodation is, as a matter of fact, general throughout the country.

NEED FOR ADDITIONAL INSTITUTIONAL ACCOMMODATION.

First, beyond five or six beds reserved at the Rufford Pulmonary Hospital early in 1926, there is no adequate accommodation available for patients suffering from pulmonary and non-pulmonary tuberculosis combined and requiring special treatment more particularly for the non-pulmonary condition. Such cases are not admitted to general hospitals owing to their infectious state, nor can they be taken in pulmonary hospitals which are not equipped or staffed to deal with the severe non-pulmonary condition. The severe combined cases are very distressing, but happily these cases are not very numerous, and 20 beds for the severe type would suffice for both sexes. Provision is being made at the Withnell Pulmonary Hospital for mild non-pulmonary disease combined with pulmonary.

Second, the County Council are almost entirely dependent for their accommodation in special and general hospitals on the voluntary bodies, and there is always the danger of losing beds at one or other of these particular institutions (as has actually occurred in the case of the Pilkington Special Hospital and the Stannington Sanatorium). Furthermore, most cases have to wait too long for admission—occasionally more than six months. The danger of losing existing beds will be much more evident in the future when the schemes of many of the county boroughs mature and these authorities enter into competition for beds.

Also, from time to time difficult cases arise which the surgeons of voluntary hospitals find themselves unable to retain, and the only satisfactory solution for the treatment of such cases, in my opinion, is the provision of beds by the County Council for Lancashire patients.

Finally, an institution with a really up-to-date light installation would cure the patients too ill to attend light centres at tuberculosis dispensaries more quickly than by present methods. This would allow a quicker “turnover” of beds, and the effect would be to free some 20 to 30 beds in other hospitals, for which the County Council pay maintenance varying in amount up to £3 per week.

SCHEME FOR PROVIDING ACCOMMODATION AT WRIGHTINGTON HALL.

In 1921, Wrightington Hall, near Parbold, and about 159 acres of land, was purchased, with the approval of the Ministry of Health, for the treatment of County patients (adults and children) suffering from non-pulmonary tuberculosis, and pulmonary and non-pulmonary tuberculosis combined in the same person. The cost of purchase, together with legal expenses, amounted to £16,645 16s. 10d. Towards this the Ministry contributed an instalment of £4,500 of their capital grant of £180 per bed.

A scheme was approved by the County Council in February, 1921, to use the Hall and grounds, but the Ministry of Health intervened and under their instructions all work was suspended in pursuance of the financial policy of the Government at that time.

The Committee in 1925 reviewed the position as regards facilities for the treatment of non-pulmonary cases and combined cases. The Wrightington Hall estate is necessarily costing a considerable sum per annum for interest and annual repayments of loan charges, and no use whatever is being made of it.

The Committee decided that the whole of the additional accommodation required for the treatment of non-pulmonary cases (adults and children) could be provided on the Wrightington Hall estate, if

the Hall with extension were utilised for the staff and administrative quarters, and new pavilions erected for patients.

The position of Wrightington is central as regards the whole County, and thus the ambulance journeys would be reduced considerably for patients—especially adults—who are acutely ill. Relatives and friends could also more easily visit the patients.

The approximate accommodation, namely, 226 beds, proposed to be provided at Wrightington was arrived at (1) by estimating the number of beds to be given up at existing institutions, and (2) by estimating the additional accommodation required to meet reasonable demands (allowance being made for patients who will not now need institutional treatment in consequence of the treatment of certain ambulant non-pulmonary cases at the light centres to be established in the dispensary areas).

On this basis, the Committee decided that accommodation should be arranged as follows :—

	Non-pul. cases. Adults.	"Combined" cases. Adults.	Non-pul. cases. Children.
Number of beds estimated to be required for treatment of County patients	128	20	181
Number of beds at Special and General Hospitals to be continued	68	...	35
Number of beds to be provided at Wrightington Hall	60	20	146
	226		

Of these 226 beds, 110 would be replacements and 116 (60 for adults and 56 for children) would be entirely new and additional accommodation. Calculating the maintenance charge at £2 10s. 0d. per week, which includes the amount of interest and repayment of the loan, these additional 116 beds would entail a new gross expenditure of about £15,080 per annum; but as, however, Wrightington Hall while empty costs for loan charges and upkeep a sum of about £2,000 per annum, the net increased cost would be £13,080, or say £13,000, half of which would fall on the County rates, namely, £6,500. This would be about one-seventh of a penny on the rates.

Adoption of Scheme.

The County Council, on the 4th August, 1927, adopted the scheme for the utilisation of Wrightington Hall for 226 beds for adults and children suffering from non-pulmonary tuberculosis at a capital cost not exceeding £148,000, and decided that the scheme which has received the approval of the Ministry of Health should be pressed forward with all possible speed.

APPLICATIONS FOR TREATMENT.

Table 11 below shows the number of “ new ” persons (2,278) who applied for treatment under the County scheme during the year 1926 :—

TABLE 11.

	Number of Applications received during 1926.	Number Received Treatment.			
		Pulmonary Cases.	Pulmonary and Non-Pulmonary.	Non-Pulmonary Cases.	Diagnosis not Confirmed.
Men	905	691	33	170	11
Women	804	570	27	199	8
Boys	286	53	10	219	4
Girls	283	81	5	191	6
TOTAL	2278	1395	75	779	29

N.B.—In this table a person who received treatment within the period appears once only, even though he has received treatment in more than one form.

Applications received in previous years were :—Average for 1914–17, 1,790 ; 1918–21, 2,294 ; 1922, 2,099 ; 1923, 2,266 ; 1924, 2,259 ; and 1925, 2,108.

The increase of 170 applications in 1926 over the previous year was due to the adoption of the provisions of Memorandum 37/T. of the Ministry of Health which came into force on the 1st January, 1926, by which a number of very early cases, accumulated in previous years, requiring little, if any, special treatment, were brought on the register.

During 1926, there were 2,781 cases notified under the Public Health (Tuberculosis) Regulations as suffering from tuberculosis (all forms) ; whereas the number of persons who applied for treatment to the County Council was 2,278, equal to 81 per cent. of the notifications.

With regard to the balance (namely 19 per cent.) of the notifications where the patients did not apply to the County Council for treatment, the principal reasons for this were : patients suffering from tuberculous meningitis or other fatal forms of the disease ; patients removed out of County area ; cases in which the diagnosis was not confirmed and no treatment required ; and patients who, for some reason or other, did not wish to avail themselves of the benefits under the County scheme.

CLASSIFICATION OF PATIENTS SUFFERING FROM PULMONARY TUBERCULOSIS.

During 1926, applications for treatment were received from 1,470 new patients, and these were reported by the tuberculosis officers to be in the undermentioned stages of the disease on the first examination :—

T.B. Minus (Sputum negative or absent) ...	...	656, or 44·6 per cent.		
T.B. Plus 1 (Early cases, sputum positive) ...	...	130, or 8·8	,,	,,
T.B. Plus 2 (Intermediate cases, sputum positive) ...	...	480, or 32·6	,,	,,
T.B. Plus 3 (Advanced cases, sputum positive) ...	...	204, or 13·9	,,	,,
		1,470	100·0	,, ,,
		1,470	100·0	,, ,,

These cases are classified in accordance with the new system made compulsory by the Ministry of Health in Memorandum 37/T. which operated from 1st January, 1926. As the Turban-Gerhardt system was in use in previous years it is not possible to make any reliable comparison with 1925 and previous years.

It is only too well known that, throughout the country generally, tuberculosis officers do not get their new cases early enough, for many patients through ignorance, and no doubt economic reasons, neglect to consult a doctor when in the early stage, and so lessen their chance of recovery. In the Administrative County we have for several years made special investigations into the reasons underlying such disastrous delay on the part of the patients. These investigations have been continued in 1926, yielding the following conclusions, which correspond very closely with the conclusions published in previous reports :—

1.—Altogether 71·6 per cent. of the advanced cases either had no doctor or had only been attending their doctor for less than two months when first examined by the tuberculosis officer or notified.

2.—After making allowance for a percentage of fulminating cases (“galloping consumption”), a large proportion—nearly three-fourths—of patients had been feeling ill for one month or more before consulting a doctor.

3.—The reason for late notification and patients delaying their application until in an advanced stage of the disease is chiefly the disinclination or unwillingness of the patients to report themselves to their doctor when feeling ill. This is due mainly to the insidious onset of the disease, the discomfort being only slight at first.

4.—There does not appear to be evidence in any large number of cases of unreasonable delay in patients being referred by their doctor to the tuberculosis officer.

5.—The initiative to seek treatment when ill rests with the patient himself, and the only feasible remedy lies in the education of the public as to symptoms and common dangers of tuberculosis and the need for securing prompt treatment. This cannot be too strongly or too often emphasised.

With regard to the last conclusion 5, there are many difficulties in the way of reaching the people who most require such education. On the tuberculosis officer rests chiefly the duty of stimulating public interest, but an increasing number of sanitary authorities and voluntary care committees are assisting in propaganda work. More satisfactory results, particularly in the future, would, I think, accrue if a more comprehensive effort were made in the teaching of hygiene to the older children at school and the syllabus expanded to permit this.

The tuberculosis medical staff have to depend very largely on the general practitioners throughout the County for bringing forward tuberculous patients, and it is satisfactory to note that, as reported on page 46, 83 per cent. of new cases are sent *before notification* to the tuberculosis officers for an opinion as to diagnosis. Too much importance is still laid by some doctors on sputum examinations alone, and often too long a time is allowed to elapse in order that the sputum may be tested ; or steps are not taken to report the case until it is returned as "positive."

Even when treatment is begun in the early stages of the disease, the experience in this County shows that treatment after a positive sputum makes a fatal result two or three times more likely than when the sputum is negative or absent.

THE DISPENSARY ORGANISATION.

The efficiency of a tuberculosis scheme depends directly on the kind of dispensary organisation set up, and while much prominence is easily given to work done at hospitals and sanatoria, the dispensary organisation is undoubtedly of primary importance because the whole basis of the work here is towards early diagnosis and prevention rather than cure. The dispensary tuberculosis officer and his staff have to carry out the most delicate duties, working in the closest co-operation with the medical practitioners and local health officials, diagnosing with due sense of responsibility cases referred to them, advising the appropriate form of treatment, investigating tactfully and at first-hand the home conditions, and effectively supervising the home treatment of patients.

A tuberculosis dispensary should be the centre of activity, for a town or district, in regard to measures for the prevention of the disease, the expert examination and diagnosis of cases, together with the supervision, special treatment, and care of all known tuberculous persons. The tuberculosis officer himself should be a first-rate clinician, of mature judgment and experience, of high professional standing, possessing expert and up-to-date knowledge of tuberculosis in its varied phases, and looked upon as a consultant by the doctors in general practice; he must have tact, discrimination, and administrative ability.

For dispensary purposes, the Administrative County is now divided into five large areas, average population 338,354, and two sub-areas. The latter are country districts surrounding the High Carley and Elswiek Sanatoria, and are administered by the medical superintendent acting as a consultant dispensary officer. Each large area is under the charge of a consultant tuberculosis officer, and to help the consultants, there are eight assistant tuberculosis officers and 30 tuberculosis health visitors. In each dispensary area there is a chief dispensary at which is co-ordinated the whole of the work required in that particular area, and, in addition, branch dispensaries have been provided.

Table A, here inserted, shows the dispensary areas with the population, present staff, the addresses of all the 24 dispensaries at present in use, and the days and times on which they are open.

Ordinary symptomatic treatment is not undertaken at a dispensary if the patient has a doctor and is at the time receiving satisfactory

TABLE A.

LIST OF DISPENSARIES AND THE TUBERCULOSIS
OFFICERS FOR THE DISPENSARY AREAS.

Table A.—List of Tuberculosis Dispensaries in use in October, 1927, and the Tuberculosis Officers for the Dispensary Areas.

Dispensary Area No.	SANITARY DISTRICTS.			Estimated Civilian Population 31/12/26.	MEDICAL STAFF October, 1927.	NURSING STAFF.	DISPENSARIES. (Chief and Branch).	Days and Hours of DISPENSARY SESSIONS (Distinct from Home Visiting, attending Sanatoria, Hospitals and Care Committees, etc.)
1	Adlington Blackrod Carnforth Chorley (B.) Chorley (R.) Croston Fulwood Garstang (R.), Part of, consisting of parishes of— Barnacre-with-Bonds Bilsborrow Bleasdale Cabus	Garstang (R.) <i>continued</i> Catterall Cloughton Cleveley Forton Garstang Holleth Kirkland Myerscough Nateby Nether Wyresdale Winmarleigh	Heysham Horwief Lancaster (B.) Lancaster (R.) Leyland Longridge Luncsdale (R.) Lytham St. Annes (B.) Morecambe (B.) Preston (R.) Walton-le-Dale Withnell	251,317	Dr. A. D. Brunwin, Tuberculosis Dispensary, 8 Middle Street, Lancaster. Assistant Tuberculosis Officer— Dr. G. H. Leigh.	Nurse L. Walker Nurse F. D. Abbott Nurse M. A. M. Thornton Nurse J. Skelcher	LANCASTER (Chief), 8 Middle Street (Tel. No. 568). (X-ray Apparatus and Artificial Light Installation). CHORLEY (Branch), 59 Gillibrand Street (Tel. No. 263). (Artificial Light Installation). PRESTON (Branch) 22 Bolton Street (Tel. No. 1111)	Monday, 12 noon. 1st Monday evening of month by appointment. Monday by appointment, Thursday, 11 a.m. 2nd Tuesday evening of month by appointment. Wednesday, 11 a.m. Monday evening before 2nd Tuesday of month by appointment.
	FURNESS SUB-AREA— Dalton-in-Furness Grange-over-Sands	Ulverston	Ulverston (R.)	39,726	Dr. E. H. A. Pask, High Carley Sanatorium, near Ulverston (Tel. No. 110 Ulverston).	Nurse E. A. Duston	ULVERSTON (Branch), Virginia House (Tel. No. 145). (X-ray Apparatus at High Carley Sanatorium).	Tuesday, 10 a.m. Thursday, 10 a.m.
	FYLDE SUB-AREA— Fleetwood Fylde (R.) Garstang (R.), Part of, consisting of parishes of— Great Eccleston Hambleton	Inskip-with-Sowerby Out Rawcliffe Pilling Stalmine-with-Stainall Upper Rawcliffe	Kirkham Poulton-le-Fylde Preesall Thornton Cleveleys	57,004	Dr. G. Leggat, Elswick Sanatorium, near Kirkham (Tel. No. 22 Great Eccleston).	Nurse A. Tweedy	FLEETWOOD (Branch), 23 Poulton Road (Tel. No. 282). (X-ray Apparatus at Elswick Sanatorium).	Tuesday, 10 a.m.
2	Accrington (B.) Bacup (B.) Barrowford Blackburn (R.) Brierfield Burnley (R.) Church	Clayton-le-Moors Clitheroe (B.) Clitheroe (R.) Colne (B.) Darwen (B.) Great Harwood Haslingden (B.)	Nelson (B.) Oswaldtwistle Padiham Rawtenstall (B.) Rishton Trawden Turton	356,597	Dr. B. MacPhee, Tuberculosis Dispensary, 39 Avenue Parade, Accrington. Assistant Tuberculosis Officer— Dr. S. C. Adam.	Nurse L. F. Norwood Nurse E. Watterson Nurse M. Duggan Nurse A. Munro Nurse H. M. Aleock Nurse R. Lambert	ACCRINGTON (Chief), 39 Avenue Parade (Tel. No. 2443). DARWEN (Branch), 20 Railway Road (Tel. No. 408). (X-ray Apparatus). NELSON (Branch), 64 Carr Road (Tel. No. 507). STACKSTEADS (Branch), Knott Hill House (Tel. No. 201 Bacup).	Tuesday, 2 p.m. Wednesday, 2 p.m. 2nd Wednesday of month, 6 p.m. Friday, 10 a.m. Tuesday, 2 p.m. Friday, 2 p.m. 1st Friday of month, 6 p.m. Monday, 2 p.m. 1st Monday of month, 6 p.m.
3	Ashton-under-Lyne (B.) (including Hurst). Audenshaw Bury (R.) Chadderton Crompton Denton Droylsden Falsworth	Heywood (B.) Lees Limehurst (R.) Littleborough Middleton (B.) Milnrow Mossley (B.) Norden Prestwich	Radcliffe Ramsbottom Royton Tottington Wardle Whitfield Whitworth	368,696	Dr. J. L. Stewart, Tuberculosis Dispensary, Boston House, Warrington Street, Ashton-under-Lyne. Assistant Tuberculosis Officers— Dr. G. Fletcher Dr. C. Berry.	Nurse H. Dewsnap Nurse C. Guilfooy Nurse W. Swift Nurse A. Flynn Nurse M. A. Potter Nurse C. Guilfooy Nurse I. F. MacDonald Nurse M. A. Potter Nurse A. Flynn	ASHTON-UNDER-LYNE (Chief), Boston House, Warrington Street (Tel. No. 775). (X-ray Apparatus and Artificial Light Installation). BURY (Branch), The Wylde* (Tel. No. 654). MIDDLETON (Branch), 71 Manchester Old Road MOSSLEY (Branch), Park Lodge. OLDHAM (Branch), 25 Barker Street (Tel. No. 1671). ROCHDALE (Branch), 168 Drake Street (Tel. No. 392).	Monday, 10-30 a.m. for X-ray examinations. Tuesday, 3 p.m. Friday, 10 a.m. 1st Tuesday of month, 6-30 p.m. Monday, 2.30 p.m. Wednesday, 2.30 p.m. 3rd Wed. of month, 6.30 p.m. Friday, 3 p.m. 2nd Friday of month, 6.30 p.m. Tuesday, 11 a.m. Monday, 3 p.m. 2nd Monday of month, 6.30 p.m. Wednesday, 10 a.m. Thursday, 10 a.m. 2nd Thursday of month, 7 p.m.
4	Atherton Barton-upon-Irwell (R.) Eccles (B.) Farnworth Irlam Kearsley	Leigh (B.) Leigh (R.) Little Hulton Little Lever Stretford	Swinton and Pendlebury Tyldesley-with-Shakerley Urmston Westthroughton Worsley	339,704	Dr. G. Jessel, Tuberculosis Dispensary, 13, Church Street, Leigh. Assistant Tuberculosis Officers— Dr. A. B. Jamieson Dr. J. Cathcart	Nurse H. M. Shakespeare Nurse A. Worsley Nurse M. B. Jones Nurse F. G. Smith Nurse A. Dickinson Nurse D. Grime	LEIGH (Chief), 13 Church Street (Tel. No. 258). ECCLES (Branch), 28 and 30 Gilda Brook Road (Tel. No. 533). (X-ray Apparatus). FARNWORTH (Branch), 19-23 Darley Street (Tel. No. 63). PENDLEBURY (Branch), 121 Station Road (Tel. No. 295 Eccles). STRETTFORD (Branch), 14 Derbyshire Lane (Tel. No. 110 Trafford Park).	Wednesday, 9.30 a.m. Friday, 9.30 a.m. 2nd Thurs. of month, 0.30 p.m. Monday, 2 p.m. for X-ray examinations. Tuesday, 2 p.m. Friday, 9.30 a.m. 1st Wed. of month, 6.30 p.m. Tuesday, 9.30 a.m. Friday, 2 p.m. 3rd Thurs. of month, 6.30 p.m. Monday, 2 p.m. Wednesday, 9.30 a.m. Last Thurs. of month, 6.30 p.m. Tuesday, 9.30 a.m. Thursday, 9.30 a.m. Last Monday of month, 6.30 p.m.
5	Abram Ashton-in-Makerfield Aspull Billinge and Winstanley Formby Golborne Great Crosby Haydock Hindley Huyton-with-Roby	Ince-in-Makerfield Lathom and Burscough Litherland Little Crosby Newton-in-Makerfield Ormskirk Orrell Prescot Rainford Sefton (R.)	Skelmersdale Standish-with-Langtree Upholland Warrington (R.) Waterloo-with-Seaforth West Lancashire (R.) Whiston (R.) Widnes (B.) Wigan (R.)	375,456	Dr. C. W. Laird, Tuberculosis Dispensary, 7 Claremont Road, Seaforth. Assistant Tuberculosis Officers— Dr. C. H. Lilley Dr. G. B. Charnock	Nurse A. Duncan Nurse I. Laing Nurse E. Welch Nurse M. J. Wilson Nurse E. Walters Nurse F. Milnes	SEAFORTH (Chief), 7 Claremont Road (Tel. No. 688 Waterloo). (X-ray Apparatus). ST. HELENS (Branch), 90 Hardshaw Street (Tel. No. 916). WIDNES (Branch), Brendan House, Widnes Road (Tel. No. 156). WIGAN (Branch), 14 Rodney Street (Tel. No. 549).	Monday, 3 to 4.30 p.m. Thursday, 10.30 a.m. for X-ray examinations. Friday, 10 to 11.30 a.m. 3rd Thursday of month, 6 p.m. Tuesday, 3 to 4.30 p.m. Last Tues. of month, 6 to 7 p.m. Monday, 10 to 11.30 a.m. Friday, 2.30 to 4.30 p.m. 1st Wed. of month, 6 to 7 p.m. Monday, 9.30 a.m. Thursday, 9.30 a.m. 4th Thurs. of month, 6.30 p.m.
				1,788,500				

* The joint dispensary at The Wylde, Bury, will be replaced by a new dispensary at 41, Darbyshire Street, Radcliffe, by end of 1927.

treatment. It is the duty of the tuberculosis officer and his staff to deal more particularly with the diagnosis of patients and with special forms of treatment, and to exercise general supervision over home treatment, acting in co-operation with the insurance practitioner or family doctor. They also devote special attention to general hygienic and preventative measures, in conjunction with the doctor and the local sanitary authority. The number of cases granted actual treatment at the dispensary has always been quite small—between five and six per cent.

Those patients with active disease are examined at frequent intervals and placed for short periods (of not more than three months) on dispensary treatment or supervision, and granted other forms of treatment as found advisable. Quiescent cases are, however, kept on dispensary supervision so long as they remain well, and reviewed annually until written off as cured.

CO-OPERATION WITH LOCAL SANITARY AUTHORITIES.

The co-operation with the local sanitary authority and its officials—a matter of the utmost importance in a County—has continued to be of a cordial character, resulting in an increased efficiency of the County scheme, and also preventing overlapping.

The tuberculosis health visitor pays a primary visit to the notified cases in each sanitary district. Her reports on the environmental conditions are considered by the tuberculosis officer, and a duplicate is sent at once to the local medical officer of health, whose attention is drawn to any sanitary defect or defects which may exist.

Each patient receives from the nurse instructions, both written and verbal, as to the general hygienic measures required, and (when not otherwise supplied by the sanitary authority) is given paper handkerchiefs and bags, or sputum flasks, and instructed in the proper method of collecting and destroying the sputum. The patient is also instructed by the nurse how to take his or her temperature, and a thermometer is lent to any patient who, in the opinion of the tuberculosis officer, requires one. Arrangements are also made for the attendance of the patient and contacts at the dispensary.

This phase of the tuberculosis work, particularly the co-operation with the local health officials, could not be done in my opinion so efficiently by health visitors devoting only a part of their time to tuberculosis work.

Full co-operation is maintained between the tuberculosis department and the various local medical officers of health in regard to changes which may occur in the names of patients entered in their register of tuberculous persons. These changes fall mainly under the following headings :—

- (1) Cancellation of notifications made by practitioners in error ;
- (2) Cases of pulmonary or non-pulmonary tuberculosis reported by tuberculosis officers as cured ;
- (3) Changes of address of patients ;
- (4) Deaths of patients—a copy of the registrar's return of deaths from tuberculosis is sent weekly by the tuberculosis department to the medical officer of health.

CO-OPERATION WITH GENERAL PRACTITIONERS, PENSIONS AUTHORITIES, SCHOOL CLINICS, HOSPITALS AND HEALTH OFFICIALS.

Next to actual prevention of tuberculosis, treatment of patients in the early stages of the disease is accepted as the chief aim. To make this effective, very close and excellent co-operation has been established between the tuberculosis medical staff and the general practitioners and various bodies and officials who medically treat or otherwise come in contact with sick persons, many of whom may be suffering, or suspected to be suffering, from tuberculosis in the early—or even late—stages. It is by this means, and before notification of the case, that the majority of early cases are brought to the notice of the tuberculosis officer, and are thus enabled to avail themselves of the special treatment afforded under the County Council scheme. Every endeavour is made, and with success, to secure effective co-operation with the following :—General practitioners, school medical officers, medical officers of clinics, pensions officials, and medical staffs of hospitals and infirmaries (including out-patient departments). *The extent of such co-operation is indicated by the fact that in 1926, out of 4,443 new cases (contacts excluded) examined by the tuberculosis officers, 3,696, or 83·2 per cent. had been referred to the dispensaries from the sources above stated before particulars of notification had been received by the tuberculosis officer. The proportion has improved steadily from 68·9 in 1921.*

Information as to the County tuberculosis scheme has been supplied to all medical practitioners, and new doctors commencing or taking over practices in the Administrative County are communicated with by the tuberculosis officer and made acquainted with the address of the nearest dispensary and the special facilities for the treatment of tuberculosis.

SUMMARY OF WORK DONE THROUGH THE DISPENSARY ORGANISATION IN 1926.

It will be observed from the table on page 49 that 5,647 new persons (including contacts) were examined at their homes or at the dispensaries by the tuberculosis officers for purposes of diagnosis. Visits by the tuberculosis officers to the homes of tuberculous persons numbered 6,399, and attendances of patients at the dispensaries numbered 35,531 (which figure includes 11,892 attendances for artificial light treatment).

Special attention was paid during the year to reviewing the cases on the register, and the following were written off and will not again be visited or examined :—pulmonary cases found to be cured (*i.e.*, disease quiescent for two years and then arrested for three or more years and no symptoms of disease present), 562 ; non-pulmonary cases found to be cured (*i.e.*, disease arrested for three or more years and no symptoms of disease present), 483 ; cases notified in error by practitioners and notifications cancelled, 191 ; cases (not notified) found to be non-tuberculous, 49.

EVENING SESSIONS AT DISPENSARIES.

As in previous years, the evening sessions have been regularly held at most of the dispensaries for the convenience of patients who are at work during the day.

TUBERCULOSIS OFFICERS' VISITS TO SANATORIA AND HOSPITALS.

Periodical visits (mostly monthly) have continued to be paid by one or other of the consultant tuberculosis officers to the majority of the pulmonary hospitals, non-County sanatoria, and special hospitals treating County patients. These visits are of mutual help, inasmuch as they keep in touch the medical superintendent and the tuberculosis officer, who are able to confer on the patients' future treatment, the home circumstances, the provisions of the County scheme, and so on.

STATISTICS REQUIRED BY MINISTRY OF HEALTH.

By Memorandum 37/T, issued in September, 1925, the Ministry require certain information concerning the work done at tuberculosis dispensaries. These statistics, in the compulsory Table I. of the Memorandum, are given in Appendix III. of this report.

TOTAL NUMBER OF CASES UNDER SUPERVISION.

Table 12 shows the total number of persons who were suffering or suspected to be suffering from tuberculosis, and who were under the supervision of the dispensary staff at the end of 1926. As a matter of interest, the number of cases per 1,000 of the population has also been calculated for each area :—

TABLE 12.—*Tuberculous Cases on Dispensary Registers on 31st December, 1926 (including 825 patients in Sanatoria and Hospitals).*

Dispensary Area.	Estimated Civilian Population, 31-12-26.	Number of Cases under Supervision on 31-12-26.										No. of Cases of Tuberculosis under supervision per 1,000 of Population.	No. of Doubtful Cases on 31-12-26.
		Pulmonary Tuberculosis.				Non-Pulmonary Tuberculosis.				Total No. of Cases.			
		15 years and over.		Under 15 years of age.		15 years and over.		Under 15 years of age.					
		M.	F.	M.	F.	M.	F.	M.	F.				
No. 1 ...	251,317	341	285	52	41	148	161	127	126	1281	5.09	1	
No. 2 ...	356,597	366	248	8	7	134	148	71	72	1054	2.95	22	
No. 3 ...	368,696	539	447	34	49	210	252	163	136	1830	4.96	15	
No. 4 ...	339,704	574	444	36	37	195	252	174	188	1900	5.59	8	
No. 5 ...	375,456	526	389	79	70	229	250	239	214	1996	5.31	32	
Furness ...	39,726	114	122	35	40	9	40	20	6	386	9.71	10	
Fylde ...	57,004	84	75	15	13	32	33	48	31	331	5.80	—	
TOTAL ...	1,788,500	2544	2010	259	257	957	1136	842	773	8778	4.90	88	
		4554		516		2093		1615					
		5070				3708							

TUBERCULOUS EX-SERVICEMEN.

Of the 8,866 patients under supervision of the dispensary staff at the end of 1926, 477 were discharged sailors, soldiers or airmen whose disease was held by the Ministry of Pensions to be attributable to or aggravated by service in the Great War and a pension granted for the disability. The number of these tuberculous pensioners is declining, falling from 1,017 at the end of 1922 to the figure of 477 mentioned above.

SUMMARY OF DISPENSARY WORK DONE BY TUBERCULOSIS OFFICERS IN 1926.

VISITS BY TUBERCULOSIS OFFICERS TO PATIENTS' HOMES—

(a) Number of new persons (including new contacts) examined for diagnosis or expert opinion...	...	...	...	...	...	...	1,594
(b) Number of re-examinations of "old" cases and "old" contacts—							
1. Respecting continued general supervision or dispensary treatment	...	...	...	...	...	...	4,151
2. Contacts respecting diagnosis	...	...	...	...	...	...	32
3. Other cases respecting diagnosis	...	...	...	...	...	...	162
4. For special forms of treatment or examinations resulting therefrom—							
Aspirations...	...	...	...	...	...	...	29
Adjustment of splints and surgical appliances	...	...	...	...	...	...	343
Lupus	...	...	...	...	...	...	33
Pneumothorax (Induction and refills)	...	...	...	...	...	...	8
Tuberculin	...	...	...	...	...	...	25
Other forms	...	...	...	...	...	...	22
							460
							<u>6,399</u>

DISPENSARY ATTENDANCES BY PATIENTS—

(a) Number of new persons (including new contacts) examined for diagnosis or expert opinion	...	...	...	...	...	...	4,053
(b) Number of re-examinations of "old" cases and "old" contacts—							
1. Respecting continued general supervision or dispensary treatment	...	...	...	...	...	...	16,015
2. Contacts respecting diagnosis	...	...	...	...	...	...	309
3. Other cases respecting diagnosis	...	...	...	...	...	...	1,972
4. For special forms of treatment or examinations resulting therefrom—							
Artificial light (Lancaster, Chorley and Ashton-under-Lyne Dispensaries)	...	...	...	...	...	...	11,892
Aspirations	...	...	...	...	...	...	183
Adjustments of splints and surgical appliances	...	...	...	...	...	...	828
Lupus	...	...	...	...	...	...	208
Pneumothorax (Induction and refills)	...	...	...	...	...	...	24
Tuberculin	...	...	...	...	...	...	25
Other forms	...	...	...	...	...	...	22
							13,182
							<u>35,531</u>

X-RAY EXAMINATIONS MADE AT COUNTY DISPENSARIES AND INSTITUTIONS—

(a) Dispensary patients	...	...	...	...	...	...	4,440
(b) Institutional patients	...	...	...	...	...	...	351
							<u>4,791</u>

EXAMINATIONS OF SPUTUM AT COUNTY DISPENSARIES ... 5,490

NUMBER OF RECOMMENDATIONS BY TUBERCULOSIS OFFICERS—

1. Sanatorium or hospital treatment	...	...	...	...	...	...	2,071
2. Dispensary treatment or general supervision...	...	...	...	...	...	...	15,135
3. Provision of special nourishment	...	...	...	...	...	...	1,676
4. Provision of surgical appliances	...	...	...	...	...	...	137
5. Loan of shelters	...	...	...	...	...	...	24
6. Diagnosis not confirmed—							
(a) Notified cases	...	...	...	...	...	...	191
(b) Non-notified cases	...	...	...	...	...	...	49
							<u>240</u>
7. Cases written off the Register as refusing treatment	...	...	...	...	...	...	32
8. Pulmonary cases written off the Register as cured	...	...	...	...	...	...	562
9. Non-pulmonary cases written off the Register as cured	...	...	...	...	...	...	483

CARE COMMITTEE MEETINGS ATTENDED BY—

(a) Tuberculosis officers	...	...	...	...	...	...	95
(b) Tuberculosis health visitors	...	...	...	...	...	...	131
LECTURES AND ADDRESSES GIVEN ON TUBERCULOSIS	...	...	...	...	...	...	19
VISITS BY TUBERCULOSIS OFFICERS TO SANATORIA, PULMONARY AND SPECIAL HOSPITALS AND POOR LAW INFIRMARIES	...	...	...	...	...	...	246
SPECIAL VISITS BY TUBERCULOSIS OFFICERS (<i>i.e.</i> , interviews with medical officers of health, general hospital officials, &c.)	...	...	...	...	...	...	90
VISITS BY DISPENSARY NURSES TO PATIENTS' HOMES—							
Routine visits	...	...	...	...	...	...	45,622
Actual nursing	...	...	...	...	...	...	1,014
Application of surgical dressings	...	...	...	...	...	...	1,573
Adjustment of splints and surgical appliances	...	...	...	...	...	...	2,123
							50,332

PATIENTS' DISPENSARY ATTENDANCES FOR ATTENTION BY NURSES—

Application of surgical dressings	...	...	...	...	...	2,040
Adjustment of splints and surgical appliances	...	...	...	...	...	184
						2,224

HOUSING.

The following table shows the housing conditions of all patients who have applied to the County Council for treatment and who were under treatment or supervision at the end of 1926. Whilst every effort is made to secure that infectious cases occupy a separate room, or at least a separate bed, no useful purpose is served by making the same insistence in regard to patients with the disease quiescent or arrested. The non-pulmonary cases are given separately, and only a very small number indeed may be considered infectious.

TABLE 13.—*Housing Statistics of 8,162 County Patients.*

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases considered infectious or contagious.	Under 15 years	10	11	3*
	15 and over ...	1,247	419	175*
Total number of Pulmonary cases not considered infectious or contagious.	Under 15 years	83	197	194
	15 and over ...	929	539	1,086
Total number of Non-Pulmonary cases.	Under 15 years	165	554	704
	15 and over ...	523	415	908
TOTAL ...	Under 15 years	258	762	901
	15 and over ...	2,699	1,373	2,169

* Of the 178 infective patients without a separate bed, 40 were isolated in sanatoria or pulmonary hospitals at the end of 1926.

Of the infective pulmonary cases at home, 7.5 per cent. had not a separate bed or room.

EXAMINATION OF HOUSE CONTACTS.

By the systematic examination of house contacts, particularly among those of patients with positive sputum, many early or unsuspected cases of tuberculosis are detected. Owing to indifference or unwillingness, considerable difficulty (which, however, is gradually being overcome) is experienced in persuading contacts to come to the dispensary for examination, or even to submit themselves for examination at all, and it, therefore, follows that the tuberculosis officer has to see a large proportion of them at their homes.

TABLE 14.—*Contacts* examined during 1926.*

	Diagnosed as Tuberculous.		Doubtful. †	Non-Tuberculous.	Total.
	Pulmonary.	Non-pulmonary.			
Examined at Home ...	10	7	9	289	315
Examined at Dispensary	36	19	48	786	889
Total ...	46	26	57	1075	1204
	72				

* In accordance with the direction of the Ministry of Health in Memorandum 121/T, cases are entered as contacts only if the cause of their being examined is the fact that they have recently been, or still are, living in contact with some dispensary patient or other notified case; many persons suffering, or suspected to be suffering, from tuberculosis who attend at the dispensary of their own accord, or who are referred by a private medical practitioner, may give a history of previous contact with a known case of tuberculosis, but this does not render them "contacts."

† In the 57 doubtful cases the diagnosis of tuberculosis had not been made within one month of the first examination, and they are so classified as doubtful in accordance with the Ministry of Health's Memorandum 37/T.

Out of the 1,204 new contacts examined during the year, 72 were ultimately diagnosed as definite cases of tuberculosis—pulmonary 46 and non-pulmonary 26. These cases are equal to 59·8 per 1,000 of contacts examined, as against the proportion of 4·9 tuberculous persons per 1,000 of the population known to the dispensary staff in the County. Thus, the examination of contacts revealed many more tuberculous cases proportionately than would be found in the ordinary population.

It may be stated that of the 46 pulmonary cases, 32 per cent. were found with a positive sputum, so that there can be no doubt whatever of the diagnosis in these cases.

PROVISION OF BEDSTEADS, MATTRESSES, AND NURSING REQUISITES.

In each County dispensary area a small stock of bedsteads, mattresses (but not bedding), and nursing requisites belonging to the County Council is available for loan to necessitous patients undergoing home treatment.

The table following shows the number of these articles owned by the County Council, and also the number of patients who have been granted the use of the articles :—

TABLE 15.

Articles.	Quantity owned by County Council, 31/12/26.	Number of patients to whom articles have been loaned during 1926.	Articles in possession of patients on 31/12/26.
Bedsteads	194	68	150
Mattresses	196	71	158
Mattress Covers	146	41	111
Air Beds	3	14	2
Air Cushions	155	236	87
Air Pillows	1	1	—
Bath Chairs... ..	6	6	6
Bed Cradles	6	3	1
Bed Pans	112	109	55
Bed Rests	58	71	38
Bed Slippers	72	31	8
Extension Apparatus	8	1	1
Fracture Boards	2	—	—
Ground Sheets	54	14	23
Hot Water Bottles, Rubber	7	1	2
Ice Bags	2	4	—
Rest Chairs	2	—	2
Rubber Sheeting	18 yds.	2	1½ yds.
Rubber Sheets	11	5	4
Spinal Boxes	22	7	4
Spinal Carriages	15	16	4
Splints	10	—	—
Urinals... ..	111	62	42
Water Beds... ..	15	8	3

The bedsteads, mattresses, &c., are held at the disposal of the consultant tuberculosis officers, and proper receipts are obtained from patients for articles loaned to them.

The action of the County Council in sanctioning the purchase of these articles has proved of valuable assistance in securing the better accommodation at home of persons with pulmonary tuberculosis considered to be infectious or contagious, especially in view of the present-day overcrowding which is general throughout the country, due to the house shortage.

ARTIFICIAL LIGHT TREATMENT.

A report on the work done at the experimental artificial light centres established during 1925 at the Lancaster and Ashton-under-Lyne dispensaries is given in a separate chapter (pages 9 to 28).

X-RAY WORK.

X-ray installations for use by the tuberculosis officers for the examination of patients in order to assist in the diagnosis of doubtful and difficult cases of tuberculosis—both pulmonary and non-pulmonary forms—have been provided as follow by the County Council in each dispensary area, except Area 2, where a special arrangement exists :—

Area 1.—Lancaster (Chief) Dispensary.

Area 2.—Darwen (Branch) Dispensary (by arrangement with local Radiological Society), and also at the Withnell Pulmonary Hospital for in-patients and occasional dispensary area cases. Plant installed at Withnell, August, 1927.

Area 3.—Ashton-under-Lyne (Chief) Dispensary.

Area 4.—Eccles (Branch) Dispensary.

Area 5.—Seaforth (Chief) Dispensary and also at the Rufford Pulmonary Hospital for in-patients and occasional dispensary area cases. Plant installed at Rufford, May, 1926.

Furness.—High Carley Sanatorium, for the dispensary sub-area and sanatorium patients.

Fylde.—Elswick Sanatorium ; for the dispensary sub-area and sanatorium patients. Plant installed June, 1926.

During the year there was added to each plant a Potter-Bucky diaphragm to enable clearer skiagrams to be taken of deep-seated bones.

The policy of placing an apparatus in each dispensary area for use by the tuberculosis officer himself is, from experience, found to be the best method, because the tuberculosis officer, with his knowledge of the patient's history and clinical signs, is most fitted to make a correct interpretation of the skiagrams. Cases are from time to time discovered by the tuberculosis officers which, but for the help afforded by X-ray examinations, would have been sent to an institution for the treatment of non-pulmonary tuberculosis. A few of such cases are alone sufficient to pay for the original cost of an X-ray apparatus. The various installations are also of use in the control of artificial pneumothorax treatment commenced during a patient's stay at a sanatorium or hospital.

The following statement shows the X-ray work done during 1926, compared with previous years :—

TABLE 16.

	1920.	1921.	1922.	1923.	1924.	1925.	1926.
At County Dispensaries and and Institutions :							
(a) Dispensary patients ...	28	657	771	2159	4045	3899	4440
(b) Institutional patients...	—	—	16	193	160	205	351
At Manchester	163	222	192	82	24	11	—
Total	191	879	979	2434	4229	4115	4791

A special chapter on the value of X-ray work together with photographs appears on pages 29 to 32.

EXAMINATION OF SPUTUM.

As an aid to diagnosis, arrangements are in existence for the examination, free of cost, of specimens of sputum sent by medical attendants. At each chief dispensary a small laboratory is installed for this work ; whilst, in addition, an arrangement exists with the Director of the Public Health Laboratory, Manchester, for the examination of specimens.

The following statement shows the results of the examinations made in 1926, compared with the previous year :—

	At Dispensary Laboratories.		At Public Health Laboratory, Manchester.	
	1925.	1926.	1925.	1926.
Positive (<i>i.e.</i> , tubercle bacilli present) ...	1,289	1,019	300	233
Negative (<i>i.e.</i> , tubercle bacilli not found).	4,841	4,471	483	454
Total	6,130	5,490	783	687

PROVISION OF SPECIAL NOURISHMENT.

The provision of special nourishment is, in suitable cases, of great value to a patient in helping him to recover from the disease. A large proportion of cases have been allowed special nourishment pending removal to an institution, and these grants have undoubtedly enabled patients to commence their institutional treatment in a more favourable state than they would have been without it. The effect may, on the whole, be said to have shortened the period of institutional treatment for many patients.

During the year, 1,676 grants of special nourishment (subject to certain conditions, published in the 1924 report) for varying periods were made to 793 individual patients. The figures in 1925 were 1,479 grants to 733 patients.

SPECIAL SURGICAL APPLIANCES.

During 1926 the following surgical appliances were supplied to patients, on the recommendation of the tuberculosis officers :—

Ankle splint, 1 ; caliper splint, 19 ; elbow splint, 4 ; hip splint, 9 ; meta finger splint, 1 ; knee splint, 4 ; rectangular splint, 1 ; foot splint, 3 ; talipes splint, 1 ; wrist splint, 4 ; abduction frame, 6 ; Bradford frame, 1 ; spinal frame, 5 ; spinal support, 19 ; spinal jacket, 2 ; crutches, 30 pairs ; patten, 23 ; surgical boot, 10 ; artificial limb, 3 ; leather collar and cuff, 2 ; collar and corset, 1 ; extension collar, 1 ; truss, 2 ; Taylor's brace, 3 ; hip shield, 1 ; Burney Yeo inhaler, 2 ; De Vilbis atomiser, 2 ; rubber urinal, 1.

SLEEPING SHELTERS.

There are now 49 shelters in use by patients at their homes. I have to thank medical officers of health and sanitary inspectors throughout the County for much valuable help in connection with the removal, disinfection, and re-erection of shelters used by County patients.

The loan of sleeping shelters is made to suitable cases on the recommendation of the tuberculosis officer, after careful consideration of the following points : (1) the condition of the patient and his ability to use the shelter properly ; (2) the position of the shelter ; (3) the home conditions of the patient ; and (4) the means of communication with the nearest inhabited building in case of a sudden relapse.

The number of persons in 1926 who were allowed the use of the shelters was 70.

REPORTS FROM DISPENSARY AREAS.

In this chapter there is given in respect of each dispensary area a summary of the work done by the dispensary staff, the housing conditions of patients, and a report of the consultant tuberculosis officer.

AREA No. 1.

Lancaster, Chorley, Preston Rural, and Lytham St. Annes Districts.

(Estimated population, 251,317.)

Consultant Tuberculosis Officer ... Dr. A. D. BRUNWIN.

Assistant Tuberculosis Officer ... Dr. G. H. LEIGH.

Number of tuberculous cases under supervision on 31st December, 1926
(Definitely tuberculous, 1281 ; doubtful, 1.) ... 1282

Examinations by Tuberculosis Officer at—						Examinations of new persons and new contacts for diagnosis.	Re-visits or re-attendances of "old" cases and "old" contacts.
Patients' homes	...	...	...	...	...	319	1356
Lancaster Chief Dispensary	...	...	...	...	...	167	485
Chorley Branch Dispensary	...	...	...	...	...	184	638
Preston Branch Dispensary	...	...	...	...	...	86	305
						437	1428
Attendances of patients at dispensaries for artificial light treatment—							
Lancaster Dispensary	...	...	...	...	...	...	910
Chorley Dispensary	...	...	...	...	...	...	211
							1121
Care committee meetings attended by—							
(a) Tuberculosis officers	...	...	...	...	...	...	20
(b) Tuberculosis health visitors	...	...	...	...	...	...	39
Lectures or addresses given	...	...	...	...	...	...	1
Visits by tuberculosis officers to sanatoria, pulmonary and special hospitals...							31
Special visits by tuberculosis officers (<i>i.e.</i> , interviews with medical officers of health, general hospital officials, &c.)	...	...	...	...	...	...	1
Visits by dispensary nurses to patients' homes—							
Routine visits	...	...	...	...	...	...	4576
Actual nursing	...	...	...	...	...	...	44
Application of surgical dressings	...	...	...	...	...	...	130
Adjustment of splints and surgical appliances	...	...	...	...	...	...	3
							4753
Patients' dispensary attendances for attention by nurses—							
Application of surgical dressings	...	...	...	...	...	...	23
Adjustment of splints and surgical appliances	...	...	...	...	...	...	3
							26
Sanitary defects reported to the local medical officers of health	...	...	...	...	...	...	19
Sanitary defects which after notification were remedied	...	...	...	...	...	...	8
Disinfections carried out by local sanitary authorities	...	...	...	...	...	...	272
Cases referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment	...	...	...	...	...	...	547

Housing Statistics of Patients (applicants) in Area No. 1.

					Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.	
Total number of Pulmonary cases <i>considered infectious or contagious.</i>					Under 15 years	1	2	—
					15 and over ...	187	42	15*
Total number of Pulmonary cases <i>not</i> considered infectious or contagious.					Under 15 years	24	27	30
					15 and over ...	122	38	130
Total number of Non-Pulmonary cases.					Under 15 years	37	45	124
					15 and over ...	82	32	124
TOTAL					453	186	423	

* Of the 15 infective patients without a separate bed, 1 was isolated in a pulmonary hospital at the end of 1926.

Dr. Brunwin sends the following report on work done in this area :—

The chief feature in the work of Area No. 1 is the extension of the use of “ artificial sunlight ” at Lancaster. A carbon arc lamp is in use, and an improved form of mercury vapour lamp has recently been installed as well as a tungsten arc lamp for local applications. A carbon arc lamp is also in use at the Chorley Dispensary. The provision of light treatment is found to lessen the need for institutional treatment in many conditions and effects a considerable saving in expense, and also enables patients to receive treatment while doing a certain amount of work. A few patients in the rural districts around Preston attend the Preston Royal Infirmary for light treatment under arrangements made by the Lancashire County Council, as it is found that in some cases Lancaster and Chorley are too far away for the patients to attend, but as far as possible, they are treated at our own centres.

The number of X-ray skiagrams taken during the year was 304, in nearly all cases for diagnosis, and the help of such examinations in difficult cases is very great indeed.

The Lancaster, Chorley and Horwich Care Committees carry on their valuable work. Great care is exercised in helping only deserving and indigent cases and the Committees carry out their duties efficiently and with due regard to economy.

Housing Statistics of Patients (applicants) in Area No. 2.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases <i>considered infectious</i> or <i>contagious</i> .	Under 15 years	—	3	—
	15 and over ...	253	93	39*
Total number of Pulmonary cases <i>not</i> considered infec- tious or contagious.	Under 15 years	4	7	6
	15 and over ...	92	38	105
Total number of Non-Pul- monary cases.	Under 15 years	14	56	50
	15 and over ...	99	66	113
TOTAL		462	263	313

* Of the 39 infective patients without a separate bed, 4 were isolated in sanatoria or pulmonary hospitals at the end of 1926.

Dr. MacPhee reports :—

The X-ray work for the area is carried out at the dispensary, 20, Railway Road, Darwen, and during the year 490 skiagrams were taken. The use of X-rays in the diagnosis of tuberculosis is undoubtedly of very great value, and the more experienced one is in their use, the more one is able to appreciate their value. They are also of great use in assisting one to arrive at a true picture of the actual condition in the lungs or joints.

Examinations of sputum are carried out at the laboratory at the Accrington Chief Dispensary. During the year 1,120 specimens were examined with the following results :—Positive, 182 ; Negative, 938. In certain special cases giving rise to difficulties in diagnosis, specimens of sputum are sent to Manchester for guinea-pig inoculation tests.

Monthly visits have been made by myself, or Dr. Adam, to the Bull Hill and Burnley Pulmonary Hospitals and the Aitken Sanatorium in order to confer with the medical superintendent as to the continuation or otherwise of treatment of County patients in the institutions.

As in former years, by arrangement with the Guardians, periodical visits were made to Moorlands Infirmary, Rawtenstall,

Attendances of patients at the Ashton-under-Lyne Dispensary for artificial light treatment	...	...	...	...	...	...	...	10771
Care committee meetings attended by—								
(a) Tuberculosis officers	...	...	...	...	...	...	...	10
(b) Tuberculosis health visitors	...	...	...	...	...	...	...	9
Lectures or addresses given	...	...	...	...	...	...	...	3
Visits by tuberculosis officers to sanatoria, pulmonary and special hospitals and poor law infirmaries	...	...	...	...	...	...	...	66
Special visits by tuberculosis officers (<i>i.e.</i> , interviews with medical officers of health, general hospital officials, &c.)	...	...	...	...	...	...	...	6
Visits by dispensary nurses to patients' homes—								
Routine visits	...	...	...	...	...	...	10258	} 11110
Actual nursing	...	...	...	...	...	...	240	
Application of surgical dressings	...	...	...	...	...	...	69	
Adjustment of splints and surgical appliances	...	...	...	...	...	...	543	
Patients' dispensary attendances for attention by nurses—								
Application of surgical dressings	...	...	...	...	...	...	113	} 122
Adjustment of splints and surgical appliances	...	...	...	...	...	...	9	
Sanitary defects reported to the local medical officers of health	...	...	...	...	...	...	...	123
Sanitary defects which after notification were remedied	...	...	...	...	...	...	...	66
Disinfections carried out by local sanitary authorities	...	...	...	...	...	...	...	562
Cases referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment	...	...	...	...	...	...	...	905

Housing Statistics of Patients (applicants) in Area No. 3.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases <i>considered infectious or contagious.</i>	Under 15 years	2	—	—
	15 and over ...	236	117	40*
Total number of Pulmonary cases <i>not</i> considered infectious or contagious.	Under 15 years	8	38	37
	15 and over ...	199	163	222
Total number of Non-Pulmonary cases.	Under 15 years	22	113	146
	15 and over ...	77	111	255
TOTAL	...	544	542	700

* Of the 40 infective patients without a separate bed, 5 were isolated in sanatoria or pulmonary hospitals at the end of 1926.

Dr. Stewart reports :—

The Care Committee for Ashton-under-Lyne and district has completed a tenth year's work, and during the twelve months 85 cases were assisted by them in various ways, the total expenditure amounting to £444 14s. 1d. In July, 1926, the Committee presented a Kromayer lamp to the County Council for use at the dispensary, and this lamp has been in operation since the October following, together with the carbon arc lamp which had been previously handed over by the Committee to the County.

The Care Committees in the Radcliffe and Whitefield district, and in the Prestwich district also did excellent work during the year.

The bacteriological work for the area is carried out at the laboratory of the chief dispensary at Ashton-under-Lyne. During the year, 1,367 specimens of sputum and 80 specimens of urine were examined, with the following results :—Sputum—positive, 356 ; negative, 1,011 ; Urine—positive, 30 ; negative, 50. These figure include re-examinations.

The X-ray work for the area has also been done at the chief dispensary. During the year, 1,726 skiagrams were taken.

Visits for the purpose of conferring with the medical superintendents as to County patients in residence have been made each month to the following institutions :—Wolstenholme Hall, Norden ; Marland, Rochdale ; Westhulme, Oldham ; Racefield, Chadderton ; Shropshire Orthopædic, Oswestry ; Sheffield (King Edward VII).

During the year 30 patients were discharged from Bury Observation Hospital, and the results on discharge are analysed as follows :—diagnosis not confirmed, 12 ; diagnosis confirmed and transferred to dispensary supervision, 14 ; diagnosis confirmed and transferred to sanatorium, 2 ; removed by parents against advice, 1 ; taken home on account of death of parent, 1. Of the cases where a diagnosis of tuberculosis was made, 7 were pulmonary and 9 non-pulmonary. The age of the patients varied from 4 to 14 years, and the average period of residence was $1\frac{3}{4}$ months.

Artificial light treatment was carried on throughout the year at Ashton-under-Lyne Dispensary, and a report on the results of the treatment has been prepared and is incorporated in the chapter on pages 9 to 28.

AREA No. 4.

Leigh, Eccles, Farnworth, Stretford, and Swinton Districts.

(Estimated population, 339,704.)

Consultant Tuberculosis Officer ... Dr. G. JESSEL

Assistant Tuberculosis Officers ... Dr. A. B. JAMIESON

Dr. J. CATHCART

Number of tuberculous cases under supervision on 31st December, 1926
(Definitely tuberculous, 1900 ; doubtful, 8.) 1908

Examination by Tuberculosis Officer at—	Examinations of <i>new persons</i> and <i>new contacts</i> for diagnosis.	Re-visits or re-attendances of “ <i>old</i> ” cases and “ <i>old</i> ” contacts.
Patients' homes	399	1071
Leigh Chief Dispensary	288	1224
Eccles Branch Dispensary	83	623
Farnworth Branch Dispensary	187	991
Pendlebury Branch Dispensary	96	576
Stretford Branch Dispensary	130	667
	<u>784</u>	<u>4081</u>
Care committee meetings attended by—		
(a) Tuberculosis officers		33
(b) Tuberculosis health visitors		40
Lectures or addresses given		7
Visits by tuberculosis officers to sanatoria, pulmonary and special hospitals, and poor law infirmaries		32
Special visits by tuberculosis officers (<i>i.e.</i> , interviews with medical officers of health, general hospital officials, &c.)		35
Visits by dispensary nurses to patients' homes—		
Routine visits		9992
Actual nursing		149
Application of surgical dressings		417
Adjustment of splints and surgical appliances		572
		11130
Patients' dispensary attendances for attention by nurses—		
Application of surgical dressings		695
Adjustment of splints and surgical appliances		93
		788
Sanitary defects reported to the local medical officers of health		34
Sanitary defects which after notification were remedied		21
Disinfections carried out by sanitary authorities		471
Cases referred by medical practitioners, Pensions authorities, &c., to tuber- culosis officer for an opinion as to diagnosis or treatment		655

Housing Statistics of Patients (applicants) in Area No. 4.

	Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary } Under 15 years cases <i>considered infectious</i> } <i>or contagious.</i> } 15 and over ...	2 301	2 87	2* 19*
Total number of Pulmonary } Under 15 years cases <i>not</i> considered infec- } tious or contagious. } 15 and over ...	10 213	28 113	24 217
Total number of Non-Pul- } Under 15 years monary cases. } 15 and over ...	45 128	116 88	138 195
TOTAL	699	434	595

* Of the 21 infective patients without a separate bed, 11 were isolated in sanatoria or pulmonary hospitals at the end of 1926.

Dr. Jessel reports :—

The total number of cases under supervision at the end of 1926 was 1,908, as compared with 2,690 at the end of 1925. This reduction has been brought about in part by the transfer of the districts served by the Wigan Branch Dispensary to Area 5 for administrative convenience. In addition, about 200 cases have been written off the register as cured. It is, therefore, impossible to make a comparison between any of the figures for 1926 and those for 1925.

The close co-operation between the dispensary staff and other organisations working for the prevention and treatment of the disease (private medical practitioners, medical officers of health, Pensions authorities, etc.), has been maintained, and out of 203 new cases examined at home, in no less than 142 (or 70 per cent.) the medical practitioner was present at the time of the examination. Close co-operation has been maintained with the poor law medical service, and I have paid regular monthly visits to the Townleys Hospital, Bolton, in order to confer with the medical superintendent concerning tuberculous patients there.

New cases. The total number of new cases (excluding contacts) examined was 848. Of these, 655 (or about 77 per cent.) were specially referred prior to notification being received. The remaining 193 were examined after notification. Diagnosis may be and often is a matter of difficulty, involving the careful appraisal based on clinical experience of evidence obtained from many sources, *e.g.*, history of illness, symptoms, careful physical examination, sputum and X-ray examinations and occasionally other tests. Each of the foregoing has its due place and worth, though none of them can, as yet, invariably be relied upon by itself.

Sputum examinations. The whole of the sputum examinations for the area were undertaken at the laboratory at the Eccles Dispensary, and during the year 1,856 specimens were examined, of which 259 were positive and 1,597 negative. Out of the 1,856 specimens examined, 335 were done at the request of medical practitioners, of which 35 specimens (relating to 34 individual patients) were positive.

X-ray work. It has been the practice to use the X-ray apparatus for selected cases where special assistance might reasonably be anticipated, in order to supplement the other methods of examination or to confirm the findings of clinical examination. During the year 485 skiagrams were taken, and some interesting results were obtained.

Care Work. The Care Committees of Leigh, Farnworth and Westhoughton, together with the tuberculosis sections of the Eccles and Stretford Civic Guilds of Help, have continued to do excellent work. These voluntary bodies have assisted 172 patients during the year, at a cost of about £488. About three-quarters of the population is covered by the activities of the Care Committees. Under the scheme whereby, in places where there is no care committee, tuberculosis officers have been authorised to assist patients directly out of the Special County Care Fund, five patients have been helped at a cost of about £13.

Home Visiting. This is regarded as of the utmost importance, as it is only by the actual visits paid by the tuberculosis officers and dispensary nurses that a clear idea of the environmental and home circumstances of the patients can be obtained, and such improvements and modifications as are indicated to further the patient's treatment, or to prevent the spread of infection, are usually only obtained at the cost of repeated visits. Care has been taken not to pay unnecessary visits. The cases that have been most frequently visited are those with active infectious disease or non-pulmonary cases requiring dressing or special attention.

Infectious cases at home. As in former years, special attention has been paid to infectious pulmonary cases at home, and much credit is due to the six tuberculosis health visitors for the results which have attended their efforts. The reports of the health visitors are regularly and carefully considered, and they are taken into consideration when patients are medically examined. In this way it has been possible to make a selection of cases suitable for institutional treatment, having regard not only to their medical condition, but also to their home conditions. Out of 413 infectious cases in the area, only 21 had not a separate bed, and of these 11 were actually in institutions, it being the practice to include both cases at home and in institutions in the return. The presence of the Peel Hall Pulmonary Hospital in the area has undoubtedly been of great advantage from this point of view.

Contacts. During the year 335 contacts were examined, out of which eight definite cases were found. This seems a small result for a great expenditure of effort, when it is remembered that the contacts examined were practically all picked cases, selected on account of some *priori* reason as being suspicious. In a number of these cases, where an X-ray examination was made, the skiagram likewise gave a negative result.

Non-Pulmonary Cases (including orthopædic cases). During the year 1,112 dressings were performed by the six tuberculosis health visitors, 695 being done at the dispensaries and 417 at the homes of patients. At the end of the year 34 patients were regularly being dressed by the health visitors. In several cases extension apparatus have been lent from the dispensary, in the application of which the dispensary staff have co-operated with the medical attendant. Several cases of glands of neck, etc., were aspirated, and in a number of cases plasters were applied in suitable cases of joint tuberculosis.

AREA No. 5.

Seaforth, Newton-in-Makerfield, Warrington Rural, West Lancashire Rural, Whiston Rural, Wigan Rural, and Widnes Districts.

(Estimated population, 375,456.)

Consultant Tuberculosis Officer	...	Dr. C. W. LAIRD.
Assistant Tuberculosis Officers	...	Dr. C. H. LILLEY. Dr. G. B. CHARNOCK.

Number of tuberculous cases under supervision on 31st December, 1926 (Definitely tuberculous, 1996 ; doubtful, 32.)	...	<u>2028</u>
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Examinations by Tuberculosis Officer at—						Examinations of new persons and new contacts for diagnosis.	Re-visits or re-attendances of "old" cases and "old" contacts.	
Patients' homes	...	...	...	...	...	309	1241	
Seaforth Chief Dispensary	...	...	...	...	...	212	1244	
St. Helens Branch Dispensary	...	...	...	...	...	90	507	
Widnes Branch Dispensary	...	...	...	...	...	179	1379	
Wigan Branch Dispensary	...	...	...	...	...	213	1014	
						<u>694</u>	<u>4144</u>	
Care committee meetings attended by—								
(a) Tuberculosis officers	...	...	...	...	...	...	...	32
(b) Tuberculosis health visitors	...	...	...	...	...	...	...	42
Lectures or addresses given	...	...	...	...	...	...	...	2
Visits by tuberculosis officers to sanatoria, pulmonary and special hospitals, and poor law infirmaries	...	...	...	...	...	...	...	52
Special visits by tuberculosis officers (<i>i.e.</i> , interviews with medical officers of health, general hospital officials, &c.)	...	...	...	...	...	...	...	31
Visits by dispensary nurses to patients' homes—								
Routine visits	...	...	...	...	...	...	7240	8885
Actual nursing	...	...	...	...	...	...	257	
Application of surgical dressings	...	...	...	...	...	...	742	
Adjustment of splints and surgical appliances	...	...	...	...	...	...	646	
Patients' dispensary attendances for attention by nurses—								
Application of surgical dressings	...	...	...	...	...	...	1186	1259
Adjustment of splints and surgical appliances	...	...	...	...	...	...	73	

Sanitary defects reported to the local medical officers of health	...	...	100
Sanitary defects which after notification were remedied	...	...	57
Disinfections carried out by local sanitary authorities	...	...	528
Cases referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment	...	...	731

Housing Statistics of Patients (applicants) in Area No. 5.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases <i>considered infectious</i> or <i>contagious</i> .	Under 15 years	3	2	—
	15 and over ...	207	69	48*
Total number of Pulmonary cases <i>not</i> considered infec- tious or contagious.	Under 15 years	9	51	72
	15 and over ...	184	149	268
Total number of Non-Pul- monary cases.	Under 15 years	29	169	210
	15 and over ...	92	87	186
TOTAL	...	524	527	784

* Of the 48 infective patients without a separate bed, 13 were isolated in sanatoria or pulmonary hospitals at the end of 1926.

Dr. Laird reports :—

The work of Area No. 5 has proceeded on lines much as usual. The number of dispensaries has increased by one since the County districts lying within a five mile radius of Wigan, containing a population of 120,032, were transferred to Area No. 5 at the beginning of the year, along with the assistant tuberculosis officer, and two tuberculosis health visitors. In consequence, the duties, including radiological, bacteriological and clerical work carried out at the chief dispensary at Seaforth have been much greater, and in actual practice more than expected in proportion to the population.

The usefulness of the X-ray plant has been enhanced by the addition of a Potter-Bucky diaphragm, which is really essential for securing satisfactory skiagrams in spinal and other deep-seated bone conditions. More and more each year has the value of the X-ray as an aid to diagnosis, prognosis and treatment been made manifest to the staff of the dispensary and to practitioners who avail themselves of the facilities which it presents.

Treatment of several suitable cases by artificial pneumothorax has been continued.

Periodical visits were paid to six sanatoria and hospitals where beds were in occupation by County patients.

At Earlestown during the year I gave an address, illustrated by lantern slides, on bacteria, with special reference to tuberculosis.

The excellent co-operation of the medical practitioners in various parts of the area has remained undiminished.

The services of the tuberculosis health visitors have proved acceptable to doctors and patients alike, and supervision of patients has been effectively maintained.

Nursing requisites have continued to be provided on loan to those in need of them, and dressings carried out by the tuberculosis health visitors at the patients' homes or at the dispensaries in selected cases.

Several sleeping shelters are in use in the areas where ground is available, and patients are thus enabled to live under open-air conditions to their own advantage, and also to diminish in many instances the risk of infecting other members of the household.

Attendances of patients at dispensaries are on the whole very satisfactory. It is gratifying to find appointments kept punctiliously by patients who come for advice and periodical overhaul, and also because they wish to be under constant medical supervision. Defaulters are the exception, and those who fail to attend at the appointed time are carefully followed up by the health visitors, and every effort made to persuade them to take proper care to prevent relapse and the spread of infection.

The five voluntary care committees in the area have continued to do useful work in spite of the difficulties of the time and the periods of distress encountered by the industrial population. Their meetings have been attended by the tuberculosis officers and by members of the nursing staff. The thanks of the community are due to all those persons who devote themselves unsparingly and with the best of motives to efforts of this kind.

FURNESS SUB-AREA.

*Dalton-in-Furness, Grange-over-Sands, Ulverston, and
Ulverston Rural Districts.*

(Estimated population, 39,726.)

Consultant Tuberculosis Officer ... Dr. E. H. ALLON PASK.

Number of tuberculous cases under supervision on 31st December, 1926

Definitely tuberculous, 386 ; doubtful, 10.) 896

Examinations by Tuberculosis Officer at—	Examinations of <i>new persons</i> and <i>new contacts</i> for diagnosis.	Re-visits or re-attendances of “ <i>old</i> ” cases and “ <i>old</i> ” <i>contacts.</i>	
Patients' homes	46	149	
Ulverston Branch Dispensary	109	1018	
Visits by tuberculosis officer to sanatoria, pulmonary and special hospitals...			10
Routine visits by dispensary nurse to patients' homes			3099
Sanitary defects reported to local medical officers of health			20
Sanitary defects which after notification were remedied			20
Disinfections carried out by local sanitary authorities			81
Cases referred by medical practitioners, Pensions authorities, &c., to tuber- culosis officer for an opinion as to diagnosis or treatment			93

Housing Statistics of Patients (applicants) in Furness Sub-Area.

	Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary { Under 15 years cases <i>considered infectious</i> or <i>contagious.</i> { 15 and over ...	2 27	1 6	1* 10*
Total number of Pulmonary { Under 15 years cases <i>not</i> considered infec- { 15 and over ... tious or contagious.	18 80	35 11	19 96
Total number of Non-Pul- { Under 15 years monary cases. { 15 and over ...	8 28	18 9	4 9
TOTAL	163	80	139

* Of the 11 infective patients without a separate bed, 3 were isolated in sanatoria or pulmonary hospitals at the end of 1926.

Dr. Pask sends the following report on the work done in this sub-area :—

The number of cases notified in the sub-area was 97, as compared with 91 last year.

The number of sputum examinations made at the High Carley Sanatorium for dispensary patients was 132.

The X-ray examinations of dispensary patients numbered 223, 18 more than in 1925.

The number of cases assisted through the County care scheme during the year was 12, and the amount expended was £29 0s. 8d.

FYLDE SUB-AREA.

Fleetwood, Fylde Rural, Garstang Rural (part of), Kirkham, Poulton-le-Fylde, Preesall, and Thornton Districts.

(Estimated population, 57,004.)

Consultant Tuberculosis Officer ... Dr. G. LEGGAT.

Number of tuberculous cases under supervision on 31st December, 1926
(Definitely tuberculous, 331 ; doubtful, —.) ... 331

						Examinations of <i>new persons</i> and <i>new contacts</i> for diagnosis.	Re-visits or re-attendances of " <i>old</i> " cases and " <i>old</i> " contacts.	
Examinations by Tuberculosis Officer at—								
Patients' homes	...	...	...	...	...	89	166	
Fleetwood Branch Dispensary	...	...	...	...	...	79	627	
Visits by tuberculosis officer to sanatoria, pulmonary and special hospitals, and poor law infirmaries						...	...	6
Visits by dispensary nurse to patients' homes—								
Routine visits	...	...	...	...	...	...	1936	2036
Actual nursing	...	...	...	...	...	...	11	
Application of surgical dressings	...	...	...	...	...	...	21	
Adjustment of splints and surgical appliances	...	...	...	...	...	...	68	
Patients' dispensary attendances for attention by nurse—								
Application of surgical dressings	...	...	...	...	...	...	12	14
Adjustment of splints and surgical appliances	...	...	...	...	...	...	2	
Sanitary defects reported to local medical officers of health						...	...	19
Sanitary defects which after notification were remedied						...	...	15
Disinfections carried out by local sanitary authorities						...	...	114
Cases referred by medical practitioners, Pensions authorities, &c., to tuber- culosis officer for an opinion as to diagnosis or treatment						...	...	121

Housing Statistics of Patients (applicants) in Fylde Sub-Area.

				Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases considered infectious or contagious.				—	1	—
{ Under 15 years						
{ 15 and over ...				36	5	4*
Total number of Pulmonary cases not considered infectious or contagious.				10	11	6
{ Under 15 years						
{ 15 and over ...				39	27	48
Total number of Non-Pulmonary cases.				10	37	32
{ Under 15 years						
{ 15 and over ...				17	22	26
TOTAL				112	103	116

* Of the 4 infective patients without a separate bed, 3 were isolated in sanatoria or pulmonary hospitals at the end of 1926.

Dr. Leggat reports :—

The dispensary at Flectwood continues to be of great assistance and a means of saving of time to the tuberculosis staff—about three times as many cases can be seen as in former days of visiting. Further, the surroundings and whole atmosphere allow of much more careful and thorough examinations being carried out than was possible at patients' homes.

The installation of the X-ray apparatus at Elswick Sanatorium (where all dispensary cases are now being sent for X-ray examination) has proved of great use and interest, and a very valuable adjunct in aiding the diagnosis of doubtful cases. The plant has been in operation since the early part of July, 1926, since when 23 screen examinations and 30 skiagrams have been taken of dispensary patients.

A laboratory has also been established at the sanatorium, and all examinations of sputum for the Fylde sub-area are now being done there instead of being sent to the Manchester Laboratory as formerly. This represents a considerable saving of expense, and there are many advantages in the work being done by the tuberculosis staff instead of by an outside authority. Since the opening of the sanatorium laboratory the number of bacteriological examinations undertaken for dispensary cases has been 67.

Close co-operation has been maintained with all medical practitioners, school medical officers, and medical officers of health, who have taken every advantage of sending cases to the dispensary for consultation.

The County Care Fund has been found invaluable in helping the more or less destitute cases and in providing clothing and assistance to necessitous patients prior to entering sanatoria or hospitals.

CARE WORK.

The policy of the County Council in regard to care work and the establishment of voluntary care committees has been fully dealt with in previous reports, including 1925.

THE VOLUNTARY CARE COMMITTEES.

At the end of the year there were 18 voluntary committees recognised by the County Council, the whole covering an estimated population of 796,962 out of an estimated County population of 1,788,500.

Particulars of the populations served, the number of patients assisted, and the amounts expended during 1926 are as follow :—

TABLE 17.—*Summary of Work done by Voluntary Care Committees.*

Name of Committee.					Estimated Population Served 1926.	Number of Individual Patients Assisted during 1926.	Expenditure during 1926.		
							£	s.	d.
Ashton-under-Lyne and District...	...				68,348	85	444	14	1
Bacup and Rawtenstall	...	...	...	...	49,440	35	14	2	0
Chorley and District	...	...	...	...	73,099	46	226	13	9
Earlestown, Newton and District	...				22,333	31	90	7	9
Eccles Guild of Help	...	...	...	...	45,670	9	15	18	3
Egerton, Eagley and District	...	...	...	...	5,759	2	4	15	0
Farnworth and District	...	...	...	...	70,095	39	155	0	0
Golborne	...	...	...	...	7,397	14	40	0	6
Horwich	...	...	...	...	16,160	23	130	14	11
Huyton-with-Roby District	...	...			5,305	—	—		
Lancaster and District	...	...	...	...	79,216	14	96	18	0
Leigh and District...	...	...	...	...	89,224	90	167	4	9
Prescot and District	...	...	...	...	21,416	19	184	4	7
Prestwich	...	...	...	...	20,520	3	4	0	0
*Radcliffe, Whitefield and District									
Relief Fund	...	...	...	...	35,248	17	186	8	2
Stretford Guild of Help	...	...	...	...	50,280	15	63	10	0
Westhoughton	...	...	...	...	17,420	19	86	11	0
Wigan County District	...	...	...	...	120,032	92	121	19	4
TOTAL	...	...	...	...	796,962	553	2033	2	1

* Relates to year ended 31st March, 1927.

The constitution, objects and sources of income of these voluntary bodies have been dealt with in previous reports, and I will only mention that the County Council has continued its grant of $33\frac{1}{3}$ per cent. of the committees' expenditure on assistance to patients.

The annual reports and balance sheets of the various committees are considered by the County Tuberculosis Committee of the County Council, who have expressed their earnest appreciation of the valuable voluntary work carried out.

In addition to the 18 voluntary care committees approved by the County Council, there are in existence many charitable and other organisations to which the tuberculosis officers are able to refer necessitous cases. Particularly, mention should be made of the relief schemes for ex-service men throughout the County provided by: (a) the Joint Council of the Order of St. John of Jerusalem and the British Red Cross Society, which deals mainly with tuberculous pensioners, and (b) the Council of Management of the United Services Fund, which mainly looks after the interests of those tuberculous men who are *not* in receipt of war pensions.

The Ministry of Health, in a circular issued in December, 1923, laid down a scheme for co-operation between the managers of the various employment exchanges of the Ministry of Labour and the tuberculosis officers with regard to the employment in suitable occupations of male patients on discharge from sanatoria or hospitals. With the present large amount of unemployment in the country, there has not been much opportunity for the scheme to show good results.

CARE WORK THROUGH DISPENSARY ORGANISATION.

The voluntary care committees only cover a little less than half the County, and there is left a balance of nearly 1,000,000 persons to be dealt with by other means, pending the formation of new voluntary committees. In the areas without care committees the County Council charged the tuberculosis dispensary staff with the duty of carrying out the relief work.

With regard to finance, the Council decided to take as a basis the amount voted to the voluntary Committees and in proportion to population to grant a similar sum for the relief of patients in the remainder of the County area. Thus the Council's expenditure on care work is fairly evenly distributed throughout the County, the districts where there are voluntary committees at work having the advantage of the additional funds obtained by them from outside sources.

Grants to necessitous patients or their dependants are made by the consultant tuberculosis officers by means of written orders on tradesmen in accordance with certain general conditions laid down by the County Council. The tuberculosis officers report that the scheme is working very satisfactorily and assisting materially in aiding patients to undergo treatment.

During 1926, assistance was afforded through the dispensary staff to 192 individual patients, the amount expended being £676 19s. 4d. The assistance was mainly in the provision of milk, groceries, and clothing.

The whole Administrative County is therefore covered by a complete and comprehensive care scheme.

COUNTY SANATORIA AND HOSPITALS.

(1) HIGH CARLEY SANATORIUM, NEAR ULVERSTON.

Medical Superintendent :

E. H. Allon Pask, M.D. (Lond.), L.R.C.P. (Lond.), M.R.C.S. (Eng.).

Assistant Medical Superintendent :

Henry J. Villiers, L.R.C.P.I., L.R.C.S.I.

Matron : Miss E. Woosey.

High Carley Sanatorium is situated about three miles west of Ulverston, to the south of the main road to Barrow-in-Furness. The buildings stand in about 23 acres of ground, and accommodation at the end of the year was provided for 112 patients (62 males and 50 females). During the summer months eight additional beds are made available temporarily for female patients.

The medical superintendent and the assistant are accommodated on the estate ; and seven houses are provided in the vicinity of the sanatorium for the male employees.

Particular attention is paid to the employment of suitable cases on some purposeful and constructive work in order chiefly to occupy the minds of the patients and bring about improved bodily health. An army hut is equipped as a workshop, and provides means for training in woodwork, boot repairing, and hurdle making. The patients also have facilities for recreation. An X-ray apparatus is installed.

An agreement exists between the County Council and the Barrow-in-Furness Corporation for the reservation at High Carley of a number of beds, not exceeding 16, for Borough patients. These beds when not required are filled by County patients, in accordance with arrangements with the Corporation.

During the year, 208 County patients received some form of dental treatment from the visiting dentist (Mr. Miller, L.D.S.).

The following table shows the condition of patients discharged during the year 1926 :—

Classification on admission to the Institution.	Condition at time of discharge.	Duration of Residential Treatment in the Institution.				Total.	
		Under 3 months.	3—6 months.	6—12 months.	More than 12 months.	No.	%
T.B. Minus.	Quiescent	11	15	6	4	36	50·7
	Improved	12	7	5	—	24	33·8
	No material improvement ...	5	4	1	—	10	14·1
	Died in Sanatorium	—	1	—	—	1	1·4
T.B. Plus 1.	Quiescent	3	2	1	1	7	16·3
	Improved	12	8	6	2	28	65·1
	No material improvement ...	4	2	2	—	8	18·6
	Died in Sanatorium	—	—	—	—	—	—
T.B. Plus 2.	Quiescent	2	3	4	1	10	11·5
	Improved	19	16	6	6	47	54·0
	No material improvement ...	13	10	4	2	29	33·3
	Died in Sanatorium	—	1	—	—	1	1·1
T.B. Plus 3.	Quiescent	—	—	—	—	—	—
	Improved	—	—	1	—	1	20·0
	No material improvement ...	1	1	2	—	4	80·0
	Died in Sanatorium	—	—	—	—	—	—
		Under 1 week.	1—2 weeks.	2—4 weeks.	More than 4 weeks.		
Observation for purpose of diagnosis.	Tuberculous (pulmonary) ...	—	1	2	10	13	34·2
	Non-tuberculous	—	—	2	21	23	60·5
	Doubtful	—	—	—	2	2	5·3
Total ...						244	

Dr. Pask reports as follows on matters relating to the treatment of the patients and the administration of the sanatorium :—

During the summer months eight additional beds were in use in the women's recreation room, in order to provide extra accommodation owing to a large waiting list of cases for admission, but the use of these was discontinued at the end of September.

No changes were made in the methods of treatment adopted at the sanatorium, the treatment employed being similar to that usually followed at other sanatoria, *i.e.* fresh air, an adequate supply of nourishing food, systematic rest, and graduated exercise and work.

During the year, treatment by artificial pneumothorax was continued. This method of treatment was tried in eight cases, and in one case only was it found impossible to carry out this owing to adhesions. The seven cases had numerous refills with beneficial results, and the treatment is still being continued either at the sanatorium or the dispensary. In all these cases the sputum was positive at the commencement, but in three cases it became negative. This gives a bacillary loss of 42·85 per cent., which compares very favourably with cases receiving ordinary treatment at the sanatorium where the bacillary loss was 17 per cent. Atmospheric air is used on all occasions including the first injection. The average initial dose is 300 c.c. and this is rapidly increased until 1,000 c.c. to 1,500 c.c. is reached which becomes the usual dose for later refills. In practice it is found that the smaller doses given do not produce sufficient collapse. X-ray control is employed for every operation performed.

A trial was given to Dr. P. Rous' treatment. This treatment consists of the injection of angiolymphæ, which is a vegetable preparation obtained from various *Irideæ*, and contains as its active principle glucosides of these plants. Three cases who were not responding to sanatorium treatment had a series of seventeen injections, but in no case was there any improvement as a result of the treatment, and the downhill progress was not in any way checked.

The general behaviour of the patients as a whole has been very good; patients are gradually coming to realise what is expected of them before they enter the sanatorium, and the length of stay which is necessary. In the few cases which left prematurely, the reasons for taking their discharge were almost entirely because of the adverse economic conditions of the family or other domestic trouble.

Much useful work has been done by patients whose physical condition permits. The shoemaker's shop has been kept quite busy and the whole of the boot repairing of patients and staff (including Oubas House Children's Sanatorium) has been done by the sanatorium patients. During the year, 288 repairs have been done. Many articles have been made in the carpenter's shop, including splints and spinal boxes for the various County dispensaries, and step-ladders, garden seats, etc., for the various County sanatoria. The shelters on the women's side have been lined throughout with wood, by patient labour.

Wattle hurdle making is another form of purposeful occupation which is quite popular, and a considerable number of hurdles have been made for use at High Carley and other County institutions.

The poultry farm, managed by four women patients, has had a very successful year, 15,210 eggs being brought into the institution. There were 230 chickens reared, and the profit on the year's working amounted to £53 5s. 3d., which is most satisfactory.

No inconvenience was experienced with coal supplies during the prolonged coal dispute, as the shortage of supplies had been anticipated, for at the outset 390 tons of fuel lay in stock, sufficient to last throughout the coal stoppage.

The land in front of the cubicles both on the men's and women's side has been laid down as lawns, which has greatly improved the appearance of the grounds. A new road was constructed from the side entrance to the boiler house to accommodate coal and goods traffic, replacing an old cinder track.

The X-ray apparatus has been extensively used during the year, and has been very useful for (1) aiding the diagnosis of cases sent for observation; (2) judging the progress made by patients during their stay at the sanatorium; (3) controlling artificial pneumothorax. During the year 99 skiagrams were taken and 106 screen examinations made.

The visiting dentist has held sessions at the sanatorium weekly. The dental treatment given enables the patients to masticate their food properly and it is a noteworthy fact that minor digestive troubles have been much less frequent since the dentist's appointment. In addition, patients generally have been impressed with the necessity of the care of the teeth, and develop a habit of oral cleanliness.

The recreation of the patients has been well provided for. Two billiard tables are available for the men patients. The weekly cinematograph entertainment has also been continued during the winter, and together with the wireless installation, still continues to be greatly appreciated. Mixed whist drives are held periodically, and in addition numerous concert parties have visited the sanatorium. In the summer months bowling, clock golf and croquet are indulged in.

Probationer nurses come for two years' training, and at the end of the course, if they have satisfactorily passed the

examination in nursing, elementary physiology and anatomy, they are granted certificates. Nurses Clarke, Palmer and Williams secured certificates during the year.

The sanatorium library is well stocked, the total books on the 31st December, 1926, being 886. Loans of books to patients and staff numbered 5,986, and the demand for books is steadily increasing. The stock is continually being replaced by grants from the County Council and by gifts of books from the British Red Cross Society. Generous supplies of magazines and periodicals are sent by friends who are interested in the institution.

An investigation was made of the sputum of 106 cases with a positive sputum on admission who were discharged during the year. Of these 106 cases, 17 were discharged with a negative sputum, and one with no sputum at all, the bacillary loss being 16.98 per cent. as compared with 21.32 per cent. and 12.82 per cent. respectively for the years 1924 and 1925.

A record was made of patients discharged during the year who had completed two or more months' treatment as to the amount of weight gained, and the figures are as follows :—

118 males—average gain in weight, 12 lbs. 5 ozs.

89 females—average gain in weight, 12 lbs. 9 ozs.

207 patients—average gain in weight, 12 lbs. 6.7 ozs.

During the year 1,493 specimens of sputum were examined for tubercle bacilli with the following results :—Positive, 791 ; negative, 702.

(2) OUBAS HOUSE CHILDREN'S SANATORIUM, ULVERSTON.

Medical Superintendent : Dr. E. H. Allon Pask.

Assistant Medical Superintendent : Dr. H. J. Villiers.

Matron : Miss E. Woosey. *Sister-in-Charge* : Miss D. Pope.

In May, 1920, the County Council came to terms with Miss Keswick, the lessor, to accept an assignment, for the residue of a term of 21 years (dating from November, 1912), of the premises known as Oubas House, Ulverston, until then used by Miss Keswick as a hospital for children.

The house stands in its own grounds (about one acre in extent), and accommodation was at first provided for 18 children and later increased to 21, all girls. A portion of an army hut has been adapted for use as a classroom. Educational instruction is given to the children in conformity with the requirements of the Board of Education.

This sanatorium is administered in conjunction with the High Carley Sanatorium, the nursing staff at Oubas House consisting of a sister-in-charge, two probationer nurses (one of whom acts as night-nurse), and also one certificated teacher.

The following table shows the condition of patients discharged during the year 1926 :—

Classification on admission to the Institution.	Condition at time of discharge.	Duration of Residential Treatment in the Institution.				Total.
		Under 3 months.	3—6 months.	6—12 months.	More than 12 months.	No.
T.B. Minus.	Quiescent	—	11	9	2	22
	Improved	1	—	1	—	2
	No material improvement ...	—	—	—	—	—
	Died in Sanatorium	1	—	—	—	1
T.B. Plus 1.	Quiescent	—	—	—	—	—
	Improved	—	—	—	—	—
	No material improvement ...	—	—	1	—	1
	Died in Sanatorium	—	—	—	—	—
T.B. Plus 2.	Nil	—	—	—	—	—
T.B. Plus 3.	Nil	—	—	—	—	—
Non-Pul.	Improved (Spinal case)	1	—	—	—	1
	Died in Sanatorium (abdominal case)	1	—	—	—	1
		Under 1 week.	1—2 weeks.	2—4 weeks.	More than 4 weeks.	
Observation for purpose of diagnosis.	Tuberculous	—	—	—	3	3
	Non-tuberculous	—	—	—	1	1
	Doubtful	—	—	—	—	—
Total ...						32

Dr. Pask reports as follows on matters relating to the treatment of patients and the administration of the sanatorium :—

The results of the treatment of the children at Oubas House during the year have been quite satisfactory. I consider the results better than in the case of adults receiving sanatorium treatment. This is perhaps accounted for by the fact that the length of stay is longer for children who are also free from any domestic worries.

Heliotherapy (natural sunlight) treatment was carried out during the summer months in suitable cases, and as a result of this the improvement in patients is more noticeable in summer than in winter.

A certified teacher is responsible for the educational work at Oubas House, and the instruction is so graded that the scheme meets as far as possible the individual capacity of each child, both mentally and physically. This helps to keep the patients happy and cheerful, particularly so with the handwork and nature study. Specimens of the handwork done by the children have been exhibited in various parts of the County during "Health Weeks." The position of the sanatorium is well adapted for a variety of walks and the collection of a large assortment of nature specimens.

During the year 149 specimens of sputum were examined for tubercle bacilli with the following results:—Positive, 25; negative, 124.

(3) ELSWICK SANATORIUM, NEAR KIRKHAM.

Medical Superintendent :

George Leggat, M.B., Ch.B., D.P.H. (Aberdeen).

Matron : Miss I. G. Barclay.

This sanatorium is situated on the east side of Elswick village, and is about six miles from Kirkham station. The buildings and about 11 acres of land belong to the Fylde, Preston, and Garstang Joint Smallpox Hospital Board, and were taken on lease by the Lancashire County Council in 1913 for a period of 21 years. The Council are under an obligation to vacate the premises in case of a severe epidemic of smallpox. The accommodation was originally used entirely for 57 pulmonary cases, but in February, 1925, to meet an emergency, the male pavilion was adapted for 24 non-pulmonary cases. The accommodation now provided is : Pulmonary cases, 16 males and 25 females ; non-pulmonary cases, 12 males and 12 females ; total 65.

The County Council decided in August, 1925, to erect a suitable building for housing an X-ray apparatus, and the installation was completed in June, 1926.

During the year, 67 County patients received some form of dental treatment from the visiting dentist (Mr. Ward, L.D.S.).

The following table gives the condition of patients discharged during 1926 :—

Classification on admission to the Institution.	Condition at time of discharge.	Duration of Residential Treatment in the Institution.				Total.	
		Under 3 months.	3—6 months.	6—12 months.	More than 12 months.	No.	%
T.B. Minus.	Quiescent	2	10	10	1	23	76·6
	Improved	—	2	2	1	5	16·6
	No material improvement ...	2	—	—	—	2	6·6
	Died in Sanatorium	—	—	—	—	—	—
T.B. Plus 1.	Quiescent	—	4	4	—	8	50·0
	Improved	—	2	2	1	5	31·2
	No material improvement ...	2	1	—	—	3	18·7
	Died in Sanatorium	—	—	—	—	—	—
T.B. Plus 2.	Quiescent	—	2	2	—	4	23·5
	Improved	2	2	1	2	7	41·2
	No material improvement ...	3	1	1	—	5	29·4
	Died in Sanatorium	1	—	—	—	1	5·9
T.B. Plus 3.	Quiescent	—	—	—	—	—	—
	Improved	—	—	—	—	—	—
	No material improvement ...	1	—	—	—	1	100
	Died in Sanatorium	—	—	—	—	—	—
Bones and Joints	Quiescent	1	2	2	6	11	61·1
	Improved	1	—	2	2	5	27·8
	No material improvement ...	—	—	—	—	—	—
	Died in Sanatorium	—	—	2	—	2	11·1
Abdominal ...	Nil.	—	—	—	—	—	—
Other Organs	Nil	—	—	—	—	—	—
Peripheral Glands	Quiescent	—	2	—	—	2	100
	Improved	—	—	—	—	—	—
	No material improvement ...	—	—	—	—	—	—
	Died in Sanatorium	—	—	—	—	—	—
		Under 1 week.	1—2 weeks.	2—4 weeks.	More than 4 weeks.		
Observation for purpose of diagnosis.	Tuberculous (pulmonary) ...	—	—	—	1	1	100
	Non-tuberculous	—	—	—	—	—	—
	Doubtful	—	—	—	—	—	—
Total ...						85	

Dr. Leggat reports as follows on matters relating to the treatment of patients and the administration of the sanatorium :—

As in the past two years, the treatment of all forms of tuberculosis in adult cases has been continued at the sanatorium,

and although this was adopted purely as an emergency measure at the beginning of 1925, the results obtained so far have fully justified the change.

(a) The treatment of pulmonary cases has been carried out on lines similar to those of previous years. In the study of some hundreds of charts it strikes one very forcibly that in many instances the pulse-rate takes a much longer time to subside to normal than does the temperature. This would suggest that as a gauge of tuberculo-toxaemia, a record of the pulse-rate is of more value than that of the temperature. A very careful record is kept of both for all patients undergoing treatment at the sanatorium, and the amount of rest, exercise and work is varied accordingly.

A considerable proportion of the cases which were admitted to the non-pulmonary side had a prolonged history, many with severe complications. During the year 18 non-pulmonary patients were discharged from the sanatorium, in 13 of whom the disease was quiescent, whilst 5 showed improvement. In addition there were two deaths. Where necessary, patients were fitted with supports and splints—a special side-ward having been improvised as a plaster and splint room in which casts were taken and celluloid splints made.

Throughout the summer months, careful exposure to natural sunlight was tried with all non-pulmonary patients free from complications and temperature. Though there were great variations in the tolerance of the sun's rays by individual cases, some being slower to respond than others, all showed improvement. As the beneficial effects of this form of treatment were so marked, it was decided to apply for a Hanovia mercury vapour lamp for artificial light treatment which apparatus was supplied early in 1927. In carefully selected cases good results were obtained by its use, both by general and local exposures. Those deriving most benefit appeared to be cases of glands, lupus, scrofuldermia and sinuses of the more superficial joints. Artificial sunlight has not been tried on pulmonary patients up to the present, though here again there were good results from exposure to natural sunlight during the summer months.

The average length of stay in the sanatorium for the pulmonary patients was $6\frac{1}{4}$ months, and for the non-pulmonary patients 10 months.

(b) All bacteriological work for the sanatorium and district is now being carried out in a specially equipped laboratory on the premises, which was opened on the 21st July. From that date to the end of the year 74 specimens of sputum from sanatorium patients were examined for tubercle bacilli, of which number 34 were found to be positive and 40 negative.

(c) A wooden building has been specially erected to accommodate the X-ray apparatus, and all X-ray examinations of sanatorium cases (and those of the district) are now undertaken here. From the middle of July to the end of the year for sanatorium patients, 52 skiagrams were taken and 9 screen examinations made. The X-ray has proved most helpful in the diagnosis of doubtful pulmonary cases, also with non-pulmonary patients both as regards diagnosis and treatment.

(d) Towards the end of the year a canteen was opened by the clerk for the sale of various dry goods, such as stationery, toilet requisites, confectionery, tobacco and cigarettes. It is proving popular with both patients and staff, and all profits go to the upkeep of amusements for the patients.

(e) There are now seven poultry runs accommodating 300 hens, providing occupation for one male and ten female patients (pulmonary) who work under an instructor (an ex-patient). During the year 29,851 eggs were sold or sent into the institution.

(4) CHADDERTON PULMONARY HOSPITAL.

Visiting Medical Superintendent :

James Wood, M.D., M.B., Ch.B., D.P.H., R.C.P.S.I.

Matron : Miss E. Simmons.

An agreement was made on the 1st October, 1919, with the Chadderton, Royton, and Crompton Joint Hospital Board for the use of the buildings, erected as a smallpox hospital, for the treatment of patients suffering from pulmonary tuberculosis. Accommodation is now provided for 40 female patients. The County Council are under an obligation to vacate the premises in case of an epidemic of smallpox.

Dr. Wood reports as under on matters relating to the hospital :—

There has been no exceptional occurrence during the year to call for special comment. Everything seems to have gone on quite smoothly. The patients and staff on the whole have been very content.

The length of time spent in hospital by most of the patients has been satisfactory. Those patients who are considered well enough are expected to do some light work, which most of them undertake very willingly. A considerable number of cases admitted have very defective teeth, and if proper treatment could be obtained I am sure many of them would receive great benefit.

Since last year's report, a croquet lawn has been made for use of the staff, and should prove of value to them.

During the year 84 specimens of sputum were examined for tubercle bacilli ; 37 were found to be positive and 26 negative ; the others (21) were re-examinations of the negative sputa.

(5) HEATH CHARNOCK PULMONARY HOSPITAL, NEAR CHORLEY.

Medical Superintendent :

J. W. Rigby, L.R.C.P. (Lond.), M.R.C.S. (Eng.).

Matron : Miss H. Sinclair.

By agreement with the Chorley Joint Hospital Board, the County Council erected, equipped, and furnished two pavilions, containing 16 and 14 beds respectively, together with a dining-hall and some staff accommodation. The pavilions were opened in November, 1914. In 1921, a hut was erected as a recreation-room for male patients. The Joint Board are responsible for the administration of the hospital, the County Council paying to them the cost of maintenance.

Dr. Rigby has kindly furnished the following report :—

There is little of note to report from the above institution for the year ending December, 1926. After the repairs carried out in the previous year, little requires to be done except the continual attention to the paths and garden.

This is the first year during which we have had all male patients. Their conduct has been satisfactory, but it is difficult to find suitable occupation for such advanced cases. The men who are up do not like assisting in the garden for any length of time. It appears that they soon tire and require a continual change of occupation, which in a small place is difficult to find.

An increase in the maintenance charge has been noticed since the change over to male patients. They require both more food and a more varied diet. The variation of diet is important to keep the patients contented, and is worth full consideration in these advanced cases in spite of the increased cost. The present patients are staying longer in hospital, and, I believe, appreciate more fully the value of prolonged hospital treatment. It may be that they have not the same home ties as women.

No new methods of treatment have been tried this year.

Most of the patients are bed cases, but a few can stay up and get about a little. For these we require some light work and recreation. There is a good reading room with a small billiard table, but they would appreciate some kind of outside recreation. The lawns are being put into condition gradually for croquet or bowls, and this may relieve the situation. The library has been generously supplied with books, but we require periodicals for those who are not accustomed to book reading and yet require something to read to pass away the time whilst in bed.

We have received the usual visits from the concert parties, and the staff have done their share in entertaining and in every way attending to the comfort of the patients.

When what is being done to the lawns and what we want in the library has been fulfilled, I hope that patients admitted to the hospital will have all they require for their comfort and treatment.

(6) PEEL HALL PULMONARY HOSPITAL, LITTLE HULTON.

Visiting Medical Superintendent :

G. Jessel, M.A., M.D. (Oxon.), D.P.H. (Manchester).

Matron : Miss A. Jones.

The Hall, with about 17 acres of land attached thereto, was presented in 1914 to the Lancashire County Council by Mr. A. Wynne-Corrie, and an additional 20 acres of land has been purchased. The adaptation of the premises as a pulmonary hospital for the treatment of advanced and chronic cases suffering from tuberculosis—delayed owing to the Great War—was completed in 1921. The County Council in May, 1927, acquired an additional 8 acres of land on the north

side of the estate to remove the possibility of dwelling-houses being erected in too close proximity to the hospital.

The accommodation has been increased from 46 to 52, all adult males, by the provision of sleeping shelters. The hospital serves principally Dispensary Area No. 4 in taking advanced, observation, and educational cases.

A motor ambulance is provided and is available also for conveying patients from their homes to other hospitals.

Dr. Jessel reports as follows on the year's work at the hospital:—

The past year has been one of steady progress in every direction. Various alterations and improvements to the buildings have been made, while the grounds—which, prior to the opening of the institution, were in a very bad state—have gradually been cleaned up and rendered more attractive. The biggest task, namely, the filling up of what was once a small lake, and replacing this by a shale tennis court and a grass croquet lawn, is practically completed. The appearance of the institution which, both inside and out, resembles in many respects a fine mansion rather than a hospital, is such as to evoke frequent expressions of admiration from patients and their friends.

During the year, four observation cases and 111 chronic and advanced cases (including a few combined cases) were admitted. The average length of stay was materially greater than during the previous year, viz.: 158 days for patients discharged, excluding three observation cases. Twenty-five deaths occurred, the average length of stay of these patients being 105 days. They remained to the end because there was no suitable accommodation or provision for them at home.

In spite of the fact that the cases are usually of a rather advanced type, from two-fifths to three-fifths have been fit to be up and engaged in various hobby-occupations. This is the result of a systematic policy, whereby febrile cases are kept strictly to bed with a view to reducing temperature and pulse rate, and many who would otherwise have rapidly gone downhill have undoubtedly thereby been enabled to regain a certain measure of equilibrium, and once more safely to be up and about. The experiment of replacing formal walks by “hobby-occupations” has been a great success, and has resulted in physical and mental improvement in many cases. Each man, when fit to be up all day, engages in some hobby-occupation of his choice for two hours a day. The hobby-occupations include joinering, painting, wood-cutting, window-cleaning, various

gardening jobs, poultry-keeping, as well as work in the engineer's department, garage and library. There is now an open-air carpenter's shop, and the articles made therein include a poultry-house for twenty fowls, cupboards, garden-seats, a book-case, barrow, shelves, etc. Nearly all the rest-chairs were repaired and the canvas renewed by patients during the winter months.

The chief recreations and amusements, apart from the above, are putting, bowling and croquet, and the usual indoor games in the recreation rooms. There are also available a piano, two gramophones, a five-valve wireless set, and a library of 600 selected books, with a turnover last year of over 1,900 volumes. As usual, for several weeks before Christmas, the men were busily engaged in making decorations, and the results were delightful. The decoration of each ward represented a definitely well thought-out scheme. The appearance of a special hospital magazine written by patients, and a pierrot performance given by the staff, added to the pleasure of the festive season. Thus, it will be evident that everything possible is done to encourage patients to persevere with the long period of treatment which is usually necessary, both from the point of view of improving their health, and in order to prevent the spread in their homes of an infectious disease. The behaviour of the patients generally has been excellent, and their appreciation is shown by the long stay that many of them voluntarily make, and the ample testimony that is borne by themselves and their relatives to the efforts of the matron and nursing staff.

(7) RUFFORD PULMONARY HOSPITAL.

Visiting Medical Superintendent :

C. W. Laird, B.A., M.D. (Dublin), D.P.H. (Liverpool).

Matron : Miss E. Moseley.

The County Council acquired, on the 18th October, 1920, Rufford New Hall, situated on the west side of the main road from Preston to Ormskirk, together with 128 acres of land adjoining the Hall. Under pressure from the Ministry of Health, a scheme was prepared for using the Hall and land for discharged sailors and soldiers, and the scheme included training the patients in several occupations. Some additional land was also obtained with a view to training in agricultural work. All this, however, was abandoned by order of the Ministry of Health, owing to the financial stringency.

On 3rd January, 1924, the Lancashire County Council received the sum of £7,931 from the Lancashire Insurance Committee, being the credit balance of the Sanatorium Benefit Fund. This sum, together with a capital grant of £2,240 from the Ministry of Health, was utilised for the adaptation of the buildings mainly as a pulmonary hospital to accommodate 51 patients in order to meet the pressing need for beds for advanced cases. The first patients were admitted on the 7th April, 1926.

The following is a description of the buildings :—

Ground Floor.—Two wards accommodating 14 patients, patients' recreation room, patients' dining-room, medical superintendent's office and dispensary, theatre, X-ray room, plaster room, dark room, accommodation for nursing and domestic staff, kitchen, scullery, pantries and stores.

First Floor.—Eleven wards accommodating 37 patients, together with bedroom accommodation for the nurses on the north side of the building and bedrooms for the domestic staff at the west end of the building.

Outbuildings.—Used for garage for ambulance, disinfecting rooms, workshop, engine, dynamo and batteries for electric lighting (electricity generated on the estate).

The hospital provides the following accommodation :—

Pulmonary hospital section, on first floor (for advanced cases)	...	...	...	...	...	...	...	33
Sanatorium section (for early and intermediate stage cases)	...	...	...	...	...	...	...	8
Non-pulmonary ward	...	...	...	...	...	...	...	6
Special ward for combined pulmonary and non-pulmonary cases	...	...	...	...	...	...	...	4
								—
Total number of beds								51
								==

The hospital was formally opened by Sir Henry F. Hibbert, the Chairman of the Lancashire County Council, on the 5th August, 1926.

The hospital serves as far as possible the districts in West Lancashire, so that relatives and friends will have reasonable facilities for visiting.

A motor ambulance has been provided, available for the hospital and also for conveying County patients to other hospitals—often involving journeys of 100 miles.

Dr. Laird reports as follows on matters relating to the treatment of patients and the administration of the hospital :—

There were 138 patients in all admitted for treatment up to the 31st December. During the year 90 patients were discharged (including 14 deaths), and there remained 48 under treatment in hospital at the end of the year.

The results of treatment of those who left the hospital were : quiescent, 14 ; improved, 29 ; stationary, 25 ; worse, 8. As the institution in the main is intended for the reception of the more advanced pulmonary cases (with the exception of some six beds devoted to the treatment of non-pulmonary disease, and a few for observation purposes) the results were as good as could be expected. Some patients were too advanced on arrival to hope for much improvement, but there were numerous gratifying results notwithstanding. Every effort is made to keep patients cheerful and to take their thoughts as far as possible from their disability. Light occupations are provided for those who can undertake them. Apart from the cleaning of silverware and similar duties, raffia work, basket work and net making form part of occupational therapy ; and naturally, as only female patients are taken, such items as needlework, crocheting and embroidery engage the attention of many. An instructress, who as an ex-patient is conversant with the patients' point of view, is at hand to help the uninitiated and to befriend any who may require her assistance in other ways. Her duties include also light service in the office, the laboratory, and the radiological department. Exercise, for those who are sufficiently fit, is not confined to the hospital grounds, though only a few are found capable of taking more extended walks. Amongst outdoor recreations croquet and clock golf find a place ; indoors various games are available, while further entertainment is to be got from a piano, a gramophone, and a wireless set.

The wireless fund, originated by the matron (to whom the interests of the patients are ever a source of friendly concern), had reached a substantial figure when it received material increase from the County Council in the form of a grant made at the kindly instigation of the Tuberculosis Committee. For

this provision both patients and staff are extremely grateful as it has been the means of making possible the purchase of an up-to-date receiving set of the Elstree pattern, which is functioning very satisfactorily and affording much pleasure to everyone. Our thanks are due in this connection not only to the County Council, but also to those who generously gave towards the object in view, and the friends who kindly helped in securing contributions.

The hospital is fortunate in being situated in delightful surroundings and in possessing well-kept lawns and gardens, all of which (particularly in the summer months), under the influence of the sun, exercise so salutary an effect on mind and body, thus assisting in restoring the invalid to comparative, if not absolute, good health. Heliotherapy (or treatment by the sun's rays) has a limited application in this country, and, according to some, in the disease with which we have to deal. Our shortcomings in this respect, so far as they are due to climatic conditions, are partly remedied by a mercury vapour (Hanovia) lamp operated by electric current generated at the hospital. This has given excellent results in selected cases.

An efficient X-ray plant has been installed, and its usefulness is being increasingly proved day by day in determining the extent and progress of disease and also in controlling artificial pneumothorax treatment. Provision is also made for laboratory work on a minor scale. The hospital has a small library for patients, and another for the staff.

During 1926, in addition to the visit of County Councillors and officials and their friends on the day of the formal opening, the North-Western Tuberculosis Society held its annual meeting at the hospital; the Southport branch of the College of Nursing, too, met there; and a delegation representative of the Southport Corporation, accompanied by the Medical Officer of Health and the Deputy Medical Officer, made a tour of inspection and expressed their satisfaction with all they saw. From time to time prominent officials of other public bodies, and various members of the medical profession from within and beyond the district, have shown their interest and appreciation on seeing over the place.

I have to acknowledge, and that with pleasure, the great assistance given me by the matron, Miss Moseley, and the staff in all matters making for efficiency and for their help in achieving such success as has been attained.

(8) WITHNELL HALL PULMONARY HOSPITAL, NEAR CHORLEY.

Visiting Medical Superintendent :

B. MacPhee, M.B., Ch.B. (Glas.), D.P.H. (Camb.).

Matron : Miss D. Willman.

The Ministry of Health have decided that the pavilion at Bull Hill, Darwen, belonging to the Darwen Corporation, and providing accommodation for 21 advanced cases of pulmonary tuberculosis, should revert to its original purpose for the treatment of ordinary infectious disease. To replace and also to increase the accommodation which will be lost by the closure of the Bull Hill Hospital, the County Council in December, 1924, purchased Withnell Hall (including two cottages, outbuildings, and 37 acres of land) situated on the main road from Blackburn to Chorley, at a cost of £5,250. The work of adapting the Hall and the provision of a new block for patients was completed in August, 1927, the first patient being admitted on 15th August. Accommodation is provided for 50 male patients (28 in cubicles, 18 in wards and 4 in shelters).

The following is a description of the buildings and particulars of the accommodation provided :—

Existing Hall.—Built of stone with slated roof. Serves as the administrative block, containing accommodation for nursing and domestic staff, medical superintendent's office, kitchen, scullery, pantry and storerooms, together with reading and recreation room for the patients.

Existing Out-buildings.—Disinfector, engine-room with dynamo and batteries for electric lighting (electricity generated on the estate), mortuary, workshop and garage.

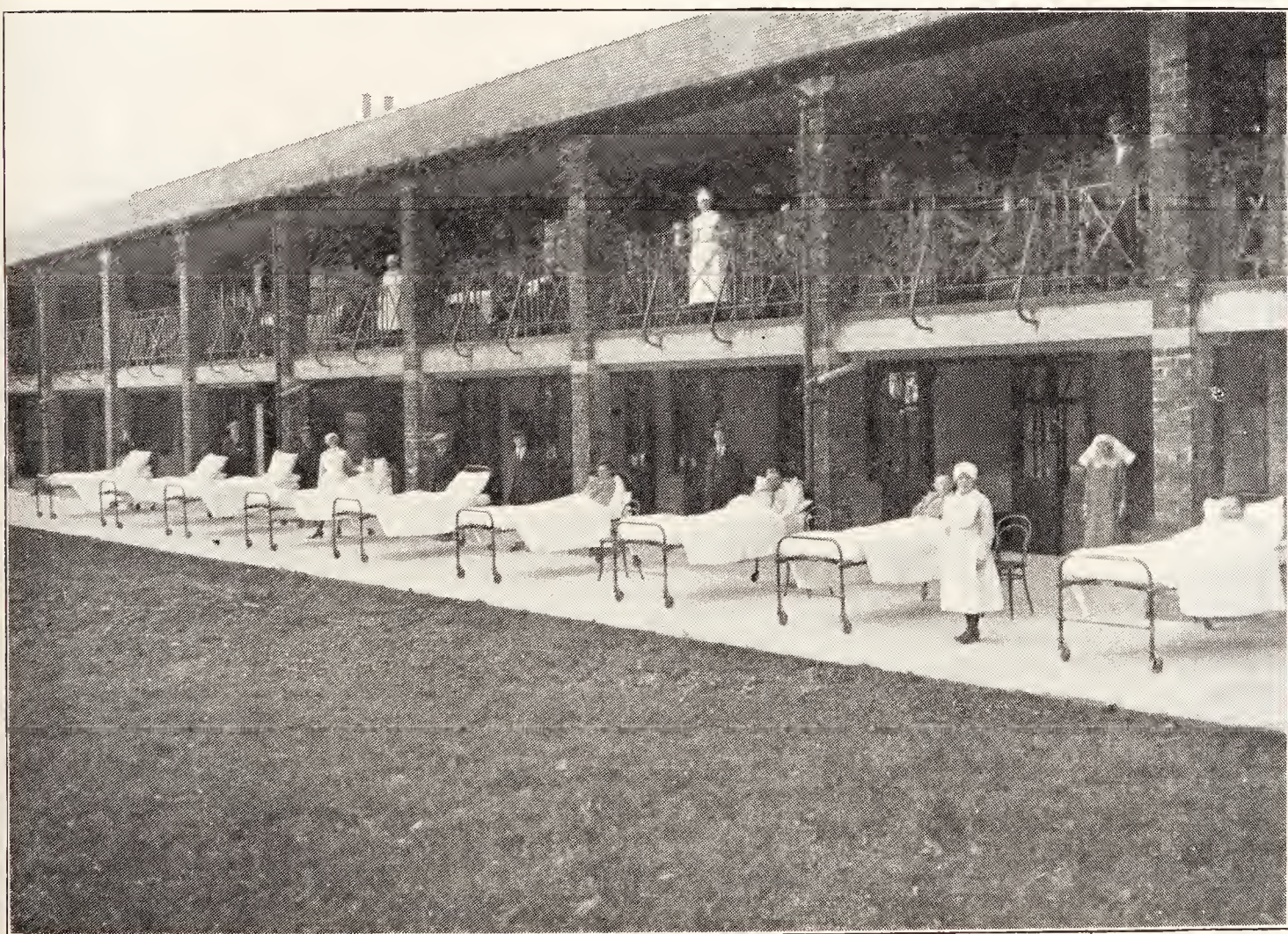
New Block, Ground Floor.—Five two-bed cubicles, four single-bed cubicles, one ward for five beds, duty room, patients' dining-room and servery, maids' dining-room, X-ray room, dispensary and dark room.

Covered way between administrative block and new pavilion.

Sanitary block with connecting corridor, linen room, sluice room, etc.



WITHNELL PULMONARY HOSPITAL.—ADMINISTRATIVE BLOCK.



WITHNELL PULMONARY HOSPITAL.—NEW PATIENTS' BLOCK.

New Block, First Floor.—Five two-bed cubicles, four single-bed cubicles, one ward for five beds and two wards for four beds. A sanitary block is provided as on the ground floor.

Staircases in stone or concrete are arranged at each end of the building.

Basement.—Heating chamber and fuel store under sanitary annexe.

There are also provided on the estate three houses for employees—two semi-detached new houses and one house converted from two cottages included in the purchase.

By arrangement with the Withnell Urban District Council the sewage from the hospital is turned into the public sewer.

The estimated cost of providing the hospital is as follows :—

	£
Purchase of Hall, out-buildings, two cottages, and 37 acres of land, including legal expenses	5,500
Cost of new block, adaptation of Hall, erection of two new houses, furniture and equipment	19,111
	<hr/>
	24,611
	<hr/>

The hospital serves mainly dispensary area 2 (East Lancashire).

(9) WRIGHTINGTON HALL, NEAR WIGAN.

The County Council, in November, 1921, purchased Wrightington Hall, outbuildings and estate of 159 acres, with a view to utilising it eventually for the provision of accommodation for children.

The Hall is situated on the high road between Standish and Parbold, about six miles north-west of Wigan, and stands at an altitude of 300 feet above sea level.

Plans were prepared in 1921 for the adaptation of the buildings, but under instructions from the Ministry of Health no work was commenced, and the scheme remained in abeyance until early in 1926, when the County Council approved generally of proposals to adapt the Hall and erect buildings to accommodate 226 patients—80 beds for adults and 146 for children. The Ministry of Health in May, 1927, agreed to the proposals of the Council, and plans satisfactory to the Ministry have been completed, receiving the approval of the Council in August, 1927. The Ministry have intimated that they are prepared to recommend a Government grant of £180 per bed towards the capital expenditure.

Description of Site and Proposed Buildings.

The whole of the buildings will be placed on the higher ground of the estate, the site having a slight fall from the north-east to the south-west. The treatment block has been placed centrally in the group and thus affords convenient access to the various pavilions. The kitchen and official block have been placed on the central axis of the group, and are connected by means of short corridors, which enable officials and staff to pass under cover to and from the administrative block and treatment block and pavilions.

The grouping of the various buildings has been planned to save as much expense as possible in the laying of pipe and cable mains, and at the same time to provide adequate air-space between the blocks.

The following is a list of the accommodation which will be provided :—

Pavilions—

Three pavilions (each of one storcy) for children, each block containing 40 beds (in two wards of 20 each), a warm ward for 4 beds, and 2 single cubicles ; also recreation room for ambulant cases, duty room, teacher's room, kitchen, pantry, surgical dressing room, linen room, and the necessary lavatory accommodation and stores ...	<i>Beds</i> 138
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Two pavilions—one for men and the other for women—each with a ward for 30 non-pulmonary cases and cubicles for 10 combined cases. It will also contain the necessary lavatory accommodation, with ward kitchen, dressing room, and a room at either end to be used as combined dining-room and recreation room (non-pulmonary cases will be at one end and “combined” cases at the other) ...	80
An isolation block ...	8

Total number of beds ...	226
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Treatment Block, containing :—Operating room, sterilizing room, X-ray room, artificial light room, sister's room, douche room, dispensary, consulting room, dentist's room, anæsthetic room, plaster room, dark room, lupus treatment room, dressing room, laboratory, recovery room with lavatory and W.C., staff W.C., surgeon's dressing room.

Kitchen Block, consisting of :—Main kitchen, two sculleries, dry goods store, coke store, larder, crockery, bread store, cook's pantry, servery, coal store, fresh meat store, fish store, vegetable store.

Official Block, containing :—Medical superintendent's office, waiting room, clerk's office, matron's office, lavatory accommodation (male and female), home sister's room, dining-room, kitchen, pantry.

Assistant medical superintendent's quarters (sitting-room, two bedrooms, dining-room, bath and lavatory accommodation).

Power House is placed near a side road and at the rear of the official block, but in as close proximity as is advisable, so that the heat and domestic hot water can be supplied from there to the various buildings. The block contains :—boiler-house (for two Lancashire boilers), engine-room, wash-house and ironing room, lavatory accommodation, destructor, battery room, workshop, disinfecter house, fuel store.

Accommodation for Nurses and Maids—

(i.) Utilization of Old Hall. It is proposed to utilize the more modern part of the Hall for the accommodation of the nurses and staff and to demolish the older portion. On the site of this portion a new wing will be erected. The accommodation to be provided in the Hall is as follows :—Nurses' dining-room, maids' dining-room, matron's sitting-room, assistant matron's sitting-room, sisters' sitting-room, two nurses' sitting-rooms, maids' sitting-room, laundresses' sitting-room, cooks' sitting-room, lecture room, kitchen, scullery, pantry and stores, sick bay of four beds, bath and lavatory accommodation on each floor, bedroom accommodation for 43 beds.

(ii.) New Wing—Bedrooms for 60 beds, with lavatory accommodation.

Medical Superintendent's House will be erected at a distance of some 300 to 400 yards from the institution, with access to same from the main road.

Workmen's Cottages—Two pairs of cottages for workmen will be erected on the drive leading from the highway to the back entrance.

Outbuildings—Provision is being made in the outbuildings for the following :—garages, leather workshop, metal shop, splint room, mortuary, store.

Heating—The buildings will be heated by hot water on the low-pressure system. The water will be pumped from the boiler house to the various blocks, which will be heated by branches taken from the heating mains.

Hot Water Supply—The domestic hot water supply will be obtained from calorifiers fixed in the various blocks.

Lighting—The buildings will be lighted by electricity from a plant to be provided on the site, or from the public supply if satisfactory terms can be arranged. Provision is made for treatment by artificial light.

The Water Supply will be taken from a well belonging to the Wigan Corporation, situated at a distance of $1\frac{1}{4}$ miles from the institution, and it will be necessary to pump the water from the well into a storage reservoir, which will be formed on the high ground between the well and the institution, from whence it will gravitate by means of a 4 in. main to the institution. A further supply of water for either cleaning or washing purposes will be obtained from the Runshaw Pit, which is situated in close proximity to the Hall.

Drainage and Sewage—It is proposed to erect a new sewage works at a distance of 250 yards from the nearest pavilion. A dual system of soil and surface drains will be provided, and the site of the pavilions will be surface drained.

Present Building.

The present building is faced with stone, has a slated roof, and is in a good state of repair generally.

The outbuildings are stone built and are in fairly good condition.

Medical, Nursing and Domestic Staffs—It is anticipated that the following staff will be required, and the staff quarters have been planned to provide this accommodation:—Medical superintendent (who will be a specialist in the treatment of surgical tuberculosis), 1; assistant medical superintendent, 1; matron and assistant matron, 2; sisters (theatre, light, X-ray, ward, &c.), 12; nurses, 52; domestic staff (cooks, laundresses, maids), 35.

A head teacher and five assistant teachers will also be required, but it is not considered necessary to provide living accommodation for them.

Estimated Cost.

The County Architect estimates the cost of carrying out the work to be £147,951, which estimate has been approved by the County Council.

DENTAL TREATMENT.

Patients eligible for dental treatment are those who, in the opinion of the medical superintendent or tuberculosis officer, are unable to derive full benefit from treatment owing to defective teeth. Patients already covered by dental schemes of other bodies are excluded from benefit.

The following statement shows the dental work carried out during 1926, under the scheme approved by the County Council:—

TABLE 18.

	At High Carley Sana- torium.	At Elswick Sana- torium.	At other Sanatoria and Hospitals.	At Patients' Homes.	Total.
Total No. of individual patients who received dental attention (any form)	208	67	73	21	369
New Dentures provided—					
(a) Complete sets	34	4	21	8	67
(b) Partial sets	19	11	32	7	69
Repairs to Dentures	11	4	16	2	33
No. of Extractions	328	239	339	79	985
No. of Fillings	75	25	1	1	102
No. of Scalings and Cleanings	3,006	464	9	2	3,481
No. of other Operations	344	51	1	1	397

The dental scheme, considering the benefit derived by the patients, has proved economical, and is fully justified.

SANATORIUM TREATMENT.

IMMEDIATE RESULTS.

Between 15th July, 1912, and 31st December, 1926, the numbers of patients suffering from pulmonary tuberculosis who received a period or periods of sanatorium treatment were as follows :—Adults 9,365, Children 626, total 9,991.

Under the County scheme, patients are not limited to any definite period for sanatorium treatment—the length of stay depending on the recommendation of the medical superintendent. Cases likely to become quiescent have always received as long a period of treatment as considered necessary on medical grounds. In spite of there being no fixed period of treatment, the average duration is about five months, and this figure is not affected by patients leaving prematurely for other than medical reasons, as deduction is made for these. In 1924 and 1925, and continuing in 1926, patients have, however, remained in sanatoria progressively longer than the average of previous years.

The following Table 19, summarising the *immediate* results of sanatorium treatment of patients discharged in 1926, has been prepared from the information as to the condition of patients given by medical superintendents in their discharge reports :—

Classification on Admission to the Institution.*	Condition at time of discharge.	Duration of Residential Treatment in the Sanatorium.												Total Patients Dis- charged.	
		Under 3 months.			3—6 months.			6—12 months			More than 12 months.				
		M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	No.	%
T.B. Minus.	Quiescent	14	5	3	17	29	12	9	8	18	2	3	9	129	45.3
	Improved	22	5	5	25	18	8	7	15	8	1	1	9	124	43.5
	No material improvement	9	8	—	5	2	1	1	1	1	—	—	1	29	10.2
	Died in Sanatorium ...	—	1	1	1	—	—	—	—	—	—	—	—	3	1.0
T.B. Plus 1 (Early)	Quiescent	2	6	—	9	4	1	3	2	—	—	1	—	28	24.1
	Improved	15	7	—	20	6	1	5	10	—	—	3	—	67	57.7
	No material improvement	7	1	1	6	—	1	2	1	1	—	—	—	20	17.2
	Died in Sanatorium ...	1	—	—	—	—	—	—	—	—	—	—	—	1	0.9
T.B. Plus 2 (Inter- mediate)	Quiescent	4	2	—	8	2	—	7	4	—	—	—	—	27	9.0
	Improved	49	11	—	44	35	—	22	18	2	4	8	1	194	64.9
	No material improvement	16	11	2	19	15	—	1	4	—	—	3	—	71	23.7
	Died in Sanatorium ...	3	2	1	—	—	1	—	—	—	—	—	—	7	2.3
T.B. Plus 3 (Ad- vanced)	Quiescent	—	—	—	1	—	—	—	—	—	—	—	—	1	2.0
	Improved	—	—	—	—	—	2	3	1	1	1	—	1	9	18.4
	No material improvement	7	3	—	—	6	—	5	4	1	1	1	—	28	57.1
	Died in Sanatorium ...	3	2	—	4	1	—	—	—	—	—	1	—	11	22.4
	Total	152	64	13	159	118	27	65	68	32	9	21	21	749	—
Obser- vation for purpose of Diagnosis.		Under 1 week.			1—2 weeks.			2—4 weeks.			More than 4 weeks				
	Tuberculous	—	—	—	—	—	—	1	—	—	9	7	11	28	41.2
	Non-tuberculous	—	—	—	—	—	—	1	—	2	13	9	12	37	54.4
	Doubtful	—	—	—	—	—	—	—	—	—	1	1	1	3	4.4
GRAND TOTAL														817	

* Classification in accordance with Memorandum 37/T of the Ministry of Health.

These cases are distinct from those who received treatment in a pulmonary hospital or observation hospital. Such treatment is granted almost solely for purposes of education or isolation, and no useful purpose is attained in trying to show curative results.

AFTER-RESULTS OF SANATORIUM TREATMENT.

Owing to the changes in the classification of cases required to be adopted by the Ministry of Health, it has not been possible in the time at disposal to prepare the usual detailed tables showing the after-results of sanatorium treatment, and alternatively, home treatment, but it is hoped to resume the compilation of these tables next year based on the new classification.

Nothing has occurred, however, to alter the conclusions arrived at as the result of the examination of the after-histories of patients in previous years, and avoiding exact figures, I give below as concisely as possible, the general conclusions on the treatment afforded patients in institutions and at home.

1.—Taking the several thousand patients who remained two months or more in a sanatorium, the cases with negative sputum, as might be expected, fared much better—from twice to five times according to the type of case—in after life than those with a positive sputum.

2.—Contrasted with the 2,000 patients who did not for some reason go to a sanatorium, those who received institutional treatment invariably did better in after-life, the difference in their favour varying from 20 per cent. to nearly 300 per cent. according to the type of case.

3.—Early diagnosis is a very important factor in the successful treatment of pulmonary tuberculosis, whether at the sanatorium or at home.

4.—In both sanatorium and non-sanatorium cases, patients with a negative or absent sputum throughout treatment are much more likely to remain fit for work, and less liable to succumb to the disease than those with tubercle bacilli in the sputum.

TREATMENT IN PULMONARY HOSPITALS.

The treatment of advanced and infectious cases at pulmonary hospitals is one of the best measures for preventing the spread of infection. The County scheme provides for the treatment, on the recommendation of the tuberculosis officers, of patients in appropriate institutions : (a) in sanatoria for early and intermediate cases ; and (b) in pulmonary hospitals near to the patients' homes for advanced cases of consumption unable to be isolated or treated properly at home.

In the pulmonary hospitals, also, patients are admitted for the purpose of isolation, occasionally for observation in regard to diagnosis, and particularly for education in general methods of hygiene which, when the patients return home, can be applied in suitable cases, much more effectively after a short period of institutional treatment.

In four of the five dispensary areas, one of these pulmonary hospitals is in charge of the consultant tuberculosis officer, a very useful arrangement because patients come to these hospitals from the area administered by the tuberculosis officer, who is, therefore, conversant with the home conditions. Further, it is of great advantage to the tuberculosis officer, because it provides the means of applying certain forms of treatment and of carrying out valuable clinical and research work.

Often patients from each of the five dispensary areas requiring isolation are accommodated as far as possible in the pulmonary hospitals (not administered by the County Council) situated in or near the area. In order that the consultant tuberculosis officers may keep themselves acquainted with the cases, arrangements have been made (with one or two exceptions, where only occasional County cases are treated) for the tuberculosis officers to visit periodically the pulmonary hospitals in their area and confer with the medical superintendents on the following matters :—(1) The question of extension of patients' treatment or their return home, having special regard to the home conditions which are known to the tuberculosis officer ; (2) the question as to patients' future treatment ; (3) applications from patients for transfer to other institutions, or for their discharge home, and to settle, where possible, any difficulties or complaints by patients which may arise.

The foregoing working arrangements have enabled the highly infectious cases with unsatisfactory home conditions to remain at the pulmonary hospitals for long periods for the purpose of isolation, and for patients who have made good progress and are capable of light work to be transferred to sanatoria for the continuation of their treatment.

By the Public Health Act of 1925, a County Council now has power to secure the compulsory isolation of infectious cases on the order of the magistrates, but so far it has not been necessary to exercise that power.

Brief particulars are given in the following Table 20 of the 16 pulmonary hospitals available for the treatment of County patients :—

TABLE 20.

Name of Hospital.	Number of Beds Reserved.	1926 : Number of Patients—		
		Admitted.	Discharged.	Died.
Bull Hill, Darwen	18	54	39	17
Burnley	10	16	11	3
Chadderton, near Oldham	39	105	71	28
East Lancashire, Cheshire	10	15	15	—
Eccleston Hall, near St. Helens ...	5	13	6	8
Heath Charnock, near Chorley ...	30	65	38	21
Hefferston Grange, Cheshire ...	5	18	12	8
Linacre, Bootle	1	1	1	1
Luneside, Lancaster	21	70	52	20
Marland, Rochdale	12	12	10	4
Mount Pleasant, Liverpool	2	3	1	3
Peel Hall, Little Hulton	52	111	80	25
Pemberton, Wigan	4	4	4	1
Rufford, near Ormskirk	51	123	68	13
Westhulme, Oldham... ..	5	10	7	4
Wolstenholme Hall, Norden ...	30	57	46	18
TOTAL	295	677	461	174

N.B.—The Withnell Pulmonary Hospital, near Chorley, was completed in 1927, and provides accommodation for 50 male patients.

The following table gives particulars of the patients discharged from the various pulmonary hospitals during the year ended 31st December, 1926 :—

TABLE 21.

Classification on Admission to the Institution.	Condition at time of discharge.	Duration of Residential Treatment in the Pulmonary Hospitals.												TOTAL
		Under 3 months.			3—6 months			6—12 months			More than 12 months			
		M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
T.B. Minus.	Quiescent	6	3	1	4	5	—	1	1	—	—	—	—	21
	Improved	5	10	—	7	11	—	1	2	—	1	—	—	37
	No material improvement...	3	12	—	1	1	1	2	1	—	—	—	—	21
	Died in Hospital	9	6	1	1	—	1	3	—	—	—	1	—	22
T.B. Plus 1.	Quiescent	1	—	—	1	1	—	—	—	—	—	—	—	3
	Improved	4	2	—	2	3	—	1	2	—	—	—	—	14
	No material improvement...	2	1	—	—	1	—	1	—	—	—	—	—	5
	Died in Hospital	3	—	—	—	—	—	—	—	—	—	—	—	3
T.B. Plus 2.	Quiescent	4	1	—	2	2	1	—	2	—	—	1	—	13
	Improved	17	18	—	30	22	—	16	8	—	5	5	—	121
	No material improvement...	21	21	—	12	4	—	7	2	—	1	—	1	69
	Died in Hospital	23	15	2	8	4	—	1	—	1	1	—	—	55
T.B. Plus 3.	Quiescent	—	3	—	—	1	—	—	—	—	—	—	1	5
	Improved	7	3	—	12	4	2	13	5	—	3	3	—	52
	No material improvement...	17	26	1	12	15	—	9	8	—	2	2	—	92
	Died in Hospital	22	23	—	11	14	—	6	6	—	5	5	1	93
	TOTAL	144	144	5	103	88	5	61	37	1	18	17	3	626
Observation for purpose of Diagnosis.		Under 1 week.			1—2 weeks.			2—4 weeks.			More than 4 weeks.			
	Tuberculous	1	—	—	1	—	—	1	—	—	—	1	—	4
	Non-tuberculous	—	—	—	—	—	—	1	—	—	3	2	—	6
	Doubtful	—	—	—	—	1	—	—	—	—	1	—	—	2
	Died in Hospital*	—	—	—	—	—	—	—	—	—	—	1	—	1
GRAND TOTAL 639														

* This case died of convulsions.

At the pulmonary hospitals the patients with negative sputum are, as far as possible, accommodated in cubicles or wards separate from the patients with positive sputum.

TREATMENT OF NON-PULMONARY TUBERCULOSIS.

IMMEDIATE RESULTS OF INSTITUTIONAL TREATMENT AT GENERAL AND SPECIAL HOSPITALS.

A summary of the condition on discharge of patients treated during 1926 in general and special hospitals and in the Manchester and Salford Skin Hospital is given below :—

TABLE 22.—*Condition of Patients discharged from General and Special Hospitals during 1926.*

Classification on admission to the Institution.	Condition at time of discharge.	Duration of Residential Treatment in the Institution.												TOTAL		
		Under 3 months.			3—6 months			6—12 months			More than 12 months					
		M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	No.	%	
Bones and Joints.	Quiescent	4	2	5	2	2	3	1	2	7	3	3	20	54	24·4	
	Improved	43	15	18	3	6	7	6	5	2	10	3	10	128	57·9	
	No material improvement ...	10	3	3	5	1	1	1	—	2	—	1	—	27	12·2	
	Died in Institution	—	1	—	—	—	—	3	2	2	—	—	4	12	5·4	
Abdominal.	Quiescent	2	1	2	—	—	—	—	—	3	—	—	1	9	14·7	
	Improved	7	6	8	3	3	4	—	1	—	—	—	1	33	54·1	
	No material improvement ...	2	4	4	1	—	1	—	—	—	—	1	—	13	21·3	
	Died in Institution	3	—	2	—	—	1	—	—	—	—	—	—	6	9·8	
Other Organs.	Quiescent	3	—	1	1	—	—	—	—	—	—	—	—	5	6·1	
	Improved	23	23	10	3	1	1	—	—	1	—	—	2	64	78·0	
	No material improvement ...	3	2	1	—	—	—	—	—	—	—	1	—	7	8·5	
	Died in Institution	1	2	2	—	—	—	—	—	—	—	—	1	6	7·3	
Peripheral Glands.	Quiescent	5	13	24	—	1	6	—	—	3	—	—	—	52	29·0	
	Improved	26	31	45	2	—	5	2	—	1	—	—	1	113	63·1	
	No material improvement ...	5	2	4	—	1	—	—	—	—	—	—	—	12	6·7	
	Died in Institution	1	—	1	—	—	—	—	—	—	—	—	—	2	1·1	
	Total ...	138	105	130	20	15	29	13	10	21	13	9	40	543	—	
		Under 1 week.			1—2 weeks.			2—4 weeks.			More than 4 weeks.					
Observation for purpose of diagnosis.	Tuberculous	—	—	—	1	1	—	1	—	—	2	4	1	10	83·3	
	Non-tuberculous	—	—	—	—	—	—	1	1	—	—	—	—	2	16·7	
	Doubtful	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Grand Total															555	

AFTER-HISTORIES OF PATIENTS SUFFERING FROM
NON-PULMONARY TUBERCULOSIS.

In Appendices VI and VII are given tables showing in detail the after-histories of non-pulmonary cases who received treatment (a) at general and special hospitals as in-patients, and (b) at home or as out-patients at hospitals together with dispensary supervision. The tables in question are summarised in the following statements :—

Institutional Treatment.

The table below shows the after-histories of non-pulmonary cases (adults and children) who received treatment in special hospitals (*e.g.* at Leasowe, Alton, Heatherwood, Shropshire Orthopædic, etc.) and general hospitals (*e.g.* Manchester Royal Infirmary, Preston Royal Infirmary, etc.), associated with home treatment and dispensary supervision:—

TABLE 23.

Classification : Part affected.	Adults (15 years and over) or Children.	Position at end of 1926.		
		Cured or Fit for Work or School.		
		Patients who applied during the 4 years 1912-15.	Patients who applied during the 5 years 1916-20.	Patients who applied during the 5 years 1921-25.
Bones and Joints ...	Adults ...	% 71·4	% 57·5	% 46·7
	Children ...	44·4	66·7	64·3
Abdominal ...	Adults ...	50·0	52·2	56·2
	Children ...	100	80·5	56·0
Other Organs ...	Adults ...	60·0	47·0	68·2
	Children ...	...	...	50·0
Peripheral Glands ...	Adults ...	83·8	93·1	95·5
	Children ...	100	96·1	93·0
Skin ...	Adults ...	50·0	81·8	82·9
	Children ...	...	83·3	97·1
Total ...	Adults ...	75·0	71·7	69·5
	Children ...	62·9	81·7	78·5

Home Treatment combined with Dispensary Supervision.

The table opposite shows the after-histories of non-pulmonary cases who received treatment at home from their own doctors or at

out-patient departments of general or special hospitals (such as the Manchester and Salford Hospital for Skin Diseases) :—

TABLE 24

Classification : Part affected.		Adults. (15 years and over) or Children.	Position at end of 1926.		
			Cured or Fit for Work or School.		
			Patients who applied during the 4 years 1912-15.	Patients who applied during the 5 years 1916-20.	Patients who applied during the 5 years 1921-25.
Bones and Joints	...	Adults	% 58·3	% 64·0	% 57·6
	...	Children	66·7	85·4	75·3
Abdominal	...	Adults	37·5	38·5	48·7
	...	Children	100	64·8	57·1
Other Organs	...	Adults	...	61·5	62·5
	...	Children	...	100	50·0
Peripheral Glands	...	Adults	83·3	89·1	94·2
	...	Children	80·0	95·7	89·7
Skin	...	Adults	100	82·4	91·3
	...	Children	...	92·3	94·7
Total	...	Adults	56·3	73·6	76·3
	...	Children	76·9	88·2	81·8

It is unsound to attempt to make any comparison between the results of treatment of patients at institutions as against treatment at home, because as a rule the worst cases have to be sent to residential institutions as they cannot be properly treated at home, and conversely the less severe types of cases (such as cervical glands and early disease of bones and joints) can be and are treated at home by their own doctor with the assistance of the dispensary staff.

Considerable advance has been made in recent years in the methods of treatment, particularly of crippled children, and the results of treatment shown in the foregoing tables 23 and 24 are satisfactory.

INSTITUTIONAL ACCOMMODATION.

On the 31st December, 1926, there were altogether 825 beds at sanatoria and hospitals occupied by County patients, as compared with 790 at the end of 1925.

The number of beds occupied fluctuates considerably during the course of the year: there is a greater demand for beds in the summer than during the winter.

Taking the institutional accommodation as it stood on 31st December, 1926, the number of sanatorium beds occupied by pulmonary cases worked out at *one* per 5,291 of the population, and the number of pulmonary hospital beds *one* per 7,097.

Below is given a summary of the beds occupied at the several types of institutions at the end of 1926:—

TABLE 25.

Type of Institution.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Total.
	Adults.	Children.	Adults.	Children.	
(a) Sanatoria... ..	279	6	—	—	285
(b) Children's Sanatoria ...	—	41	—	14	55
(c) Training Colony ...	5	—	—	—	5
(d) Pulmonary Hospitals ...	240	9	—	—	249
(e) Observation Cases (Pulmonary)	5	5	—	—	10
(f) General Hospitals ...	—	—	18	4	22
(g) Special Hospitals ...	—	—	68	10	78
(h) Children's Non-Pulmonary Hospitals	—	—	—	117	117
(i) Skin Hospital	—	—	3	—	3
(j) Observation Cases (Non-Pulmonary)	—	—	1	—	1
Total	529	61	90	145	825
	590		235		

The number of beds in occupation by County patients on the 31st December of previous years is as follows :—

1921	1922	1923	1924	1925.
641	678	750	766	790

Of the 590 beds occupied at the end of 1926 by pulmonary patients, 69 per cent. of such cases were classified as “Tb. plus,” that is, sometime during treatment their sputum was positive.

The names of the institutions and the number of beds taken by County patients are set out fully in Appendix VIII.

HOME TREATMENT AND DISPENSARY TREATMENT OR SUPERVISION.

All notified cases of tuberculosis receive while at home dispensary supervision exercised through the tuberculosis officers and tuberculosis health visitors, in addition to the treatment that may be obtained from their medical practitioners.

For insured persons suffering from tuberculosis, the “National Health Insurance (Medical Benefit) Regulations, 1924,” contain references to the duties of practitioners, as to referring and reporting on cases of tuberculosis to the tuberculosis officer, particulars thereof being given in the previous annual report.

The Minister of Health (in Memo. No. 286) advises that an insurance practitioner should refer also to the tuberculosis officer any case suspected to be suffering from tuberculosis in order that there may be no delay in giving the patient the benefit of any facilities available under the tuberculosis scheme of the local authority.

The most cordial and effective co-operation exists in the County between the tuberculosis medical staff and the family doctors.

Ordinary medical treatment at dispensaries has never been undertaken, unless the patient has no doctor or requires some special form of treatment. Patients with active disease are examined by the tuberculosis officer at frequent intervals, and placed for short periods—generally three months—on dispensary supervision, and granted other forms of treatment as found necessary. Quiescent or arrested cases are kept under supervision so long as they are well, and are reviewed annually.

It is highly desirable there should be close co-operation between the medical practitioner or family doctor and the County tuberculosis officer, and, prior to each examination of patients by the latter, information is sent to the medical attendant as to time and place. In some cases general practitioners confer with the tuberculosis officer in person, to their mutual advantage, and in other cases this end is secured by telephone or correspondence. The number of consultations in 1926 was as follows : At the homes of patients, 874 ; otherwise, 4,502 ; total, 5,376.

TREATMENT AND OCCUPATIONAL TRAINING AND VILLAGE SETTLEMENTS.

Male patients recommended by the tuberculosis officers for a course of treatment combined with training are, by arrangement, sent to the East Lancashire Training Colony, Barrowmore Hall, Cheshire, and occasionally to the British Legion Village, Preston Hall, Aylesford, Kent. The following trades or occupations are taught: poultry farming, pig keeping, game keeping, cabinet making, carpentry, horticulture, market gardening, boot making and repairing, French polishing, and upholstering.

The following table gives particulars of the patients so far granted a course of treatment combined with training:—

TABLE 26.—*Treatment and Occupational Training.*

Classifica- tion on Admission.	Total No. admitted (3rd Aug., 1920, to 31st Dec., 1926).	Total Number Dis- charged.	Average duration of stay at Colony* (months).	PATIENTS DISCHARGED.			Still undergoing Training, 31st Dec., 1926.
				Course of Training completed.	Training terminated before completion of course.	Transfer to Sanatoria or Hospital.	
T.B. Minus	29	27	16	12	15	—	2
T.B. Plus 1	21	18	16.5	7	10	1	3
T.B. Plus 2	22†	22†	15	10‡	9‡	3‡	—
T.B. Plus 3	3	3	12	1	2	—	—
Total	75	70	15.5	30	36	4	5

* Average duration relates to patients who completed course.

† Includes 3 Civilians.

‡ " 1 "

Thus, of 70 patients who left training colonies (66 of whom were pensioners), *only* 30 (or 43 per cent.) were regular discharges on completion of the course. Whilst the proportion of the patients completing their training is slightly better than last year, the fact that 40 out of 70 men terminated their course prematurely cannot be regarded as satisfactory, particularly as the patients were chosen with extreme care by the tuberculosis officers. The published figures for the whole of the country continue, in my opinion, to be disappointing.

How to deal with tuberculous patients, men and women, following unsuitable occupations, treating them in sanatoria and then training them in some new craft, and eventually settling a proportion of them with unsatisfactory home or working conditions in village settlements, is perhaps the most difficult matter now awaiting a solution on a large scale in the whole tuberculosis problem. The several village settlements—of which the Cambridgeshire Tuberculosis Colony, Papworth, is the best example—established by voluntary bodies in this country are only able to deal with a fraction of the patients, and it is a matter of much controversy at present whether similar successful settlements could be established under schemes administered by public authorities.

Reverting to the Lancashire figures, the reasons given for the 36 patients who left irregularly or prematurely are as follow :—

Medically unfit to continue training...	10	} 36
Temperamentally unsuitable	...	...	...	4
Discharged for disciplinary reasons	...	...	...	10
Left on own responsibility and against advice	...	...	...	12

Concerning the 30 men who duly completed their training, the following statement shows their position at the end of March, 1927 :—

Successfully following occupation in which trained	2	} 30
Following occupation in which trained, but with only partial success	...	...	...	...	3
Colonised at East Lancashire Training Colony	...	...	...	...	6
Written off Register as Cured	...	...	...	...	2
Fit for work, but unable to obtain employment	...	...	...	...	3
Medically unfit for work	...	...	...	...	2
Undergoing treatment in sanatorium or general hospital...	...	...	...	...	2
Following other occupations	...	...	...	...	5
Removed out of County area	...	...	...	...	4
Died	...	...	...	...	1

In view of the unfortunate lack of success in training men in new occupations and settling them in employment, recommendations for treatment and training are made with the greatest care and stringency ; the number of new admissions in 1926 was 10.

Particulars of the six County patients who have been “ settled ” in houses or in the hostel at the East Lancashire Tuberculosis Colony, Barrowmore Hall (belonging to the Joint Council of the Order of St. John and the British Red Cross Society) are given below :—

14225.—G.A. Aged 25, ex-service man, pension, single. Sputum positive, early case on first examination. Trained in upholstery, previously press-hand in printing works. Has had 12 months in training colony, and 22 months sanatorium treatment.

16445.—C.M. Aged 30, ex-service man, no pension, single. Combined case, sputum negative and tuberculous spine (early) on first examination. Trained in woodwork, previously a bricklayer's labourer. Has had 12 months in training colony.

12767.—T.H.T. Aged 27, ex-service man, pension, married. Sputum positive, early case on first examination. Trained in poultry farming, previously a dairyman. Has had 20 months in training colony and 15 months sanatorium treatment.

14669.—R.B. Aged 31, ex-service man, no pension, married. Sputum positive, early case on first examination. Trained in carpentry, previously a police constable. Has had 12 months in training colony, and 8 months sanatorium treatment.

14657.—I.F. Aged 21, single. Sputum positive, intermediate case on first examination. Trained in carpentry, previously a cloth packer. Has had 12 months in training colony and 12 months sanatorium treatment.

18890.—F.H. Aged 25, ex-service man, no pension, married. Sputum positive, intermediate case on first examination. Trained as timber clerk, previously a general clerk. Has had 12 months in training colony, 4 months treatment at a sanatorium and 3 months at a pulmonary hospital.

Whilst it is very gratifying that this voluntary body has been able to colonise several County patients, it must not be overlooked that only a small fraction of deserving cases has been dealt with.

APPENDIX I.

Death-Rates in 1926 from Tuberculosis in 121 Urban and Rural Districts in Lancashire, and in the 7 County Dispensary Areas.

SANITARY DISTRICTS.	Estimated Population, 1926.	Pulmonary Tuberculosis.			Non-Pulmonary Tuberculosis.	
		Number of Deaths. 1926.	Death-Rate per 1,000 of Population, 1926.	Average Death-Rate 10 years, 1916-25.	Number of Deaths, 1926.	Death-Rate per 1,000 of Population, 1926.
URBAN.						
Abram	6,540	5	0.76	0.75	1	0.15
Accrington (B)	43,190	34	0.78	0.76	9	0.20
Adlington	4,462	4	0.89	0.66	—	—
Ashton-in-Makerfield	24,880	12	0.48	0.76	4	0.16
Ashton-under-Lyne (B)	43,070	46	1.06	1.09	3	0.06
Aspull	7,722	8	1.03	0.67	2	0.25
Atherton	20,110	6	0.29	0.73	2	0.09
Audenshaw... ..	8,340	3	0.35	0.67	—	—
Bacup (B)	20,550	14	0.68	0.73	4	0.19
Barrowford	5,534	1	0.18	0.69	1	0.18
Billinge	5,155	2	0.38	0.83	—	—
Blackrod	3,854	1	0.25	0.58	1	0.25
Brierfield	8,302	—	—	0.84	—	—
Carnforth	3,170	2	0.63	0.57	1	0.31
Chadderton... ..	27,770	18	0.64	0.88	9	0.32
Chorley (B)... ..	31,150	17	0.54	0.75	14	0.44
Church	6,635	5	0.75	0.73	2	0.30
Clayton-le-Moors	8,468	7	0.82	0.64	—	—
Clitheroe (B)	12,210	5	0.40	0.87	3	0.24
Colne (B)	25,270	12	0.47	0.90	3	0.11
Crompton	14,990	11	0.73	1.00	3	0.20
Croston	1,954	—	—	0.26	1	0.51
Dalton-in-Furness	11,170	12	1.07	1.30	1	0.08
Darwen (B)	38,860	11	0.28	0.67	6	0.15
Denton	17,150	13	0.75	0.80	5	0.29
Droylsden	13,370	16	1.19	1.04	3	0.22
Eccles (B)	45,670	33	0.72	1.00	9	0.19
Failsworth	16,690	11	0.65	1.06	1	0.05
Farnworth	28,990	18	0.62	0.99	4	0.13
Fleetwood	21,750	15	0.68	0.91	3	0.13
Formby	7,177	7	0.97	0.92	—	—
Fulwood	6,345	5	0.78	0.63	—	—
Golborne	7,397	11	1.48	0.79	1	0.13
Grange-over-Sands	2,163	2	0.92	0.71	—	—
Great Crosby	14,790	14	0.94	0.74	1	0.06
Great Harwood	13,710	8	0.58	0.56	1	0.07
Haslingden (B)	17,140	14	0.81	0.70	1	0.05
Haydock	11,190	—	—	0.87	2	0.17
Heysham	5,501	3	0.54	0.68	—	—
Heywood (B)	25,940	18	0.69	0.97	9	0.34
Hindley	24,820	24	0.96	0.74	5	0.20
Horwich	16,160	16	0.99	0.72	7	0.43
Hurst	7,975	6	0.75	0.92	2	0.25
Huyton-with-Roby	5,305	4	0.75	0.63	—	—
Ince-in-Makerfield... ..	24,230	15	0.61	0.87	6	0.24
Irlam	12,290	6	0.48	0.57	3	0.24
Kearsley	10,530	8	0.75	0.69	—	—
Kirkham	3,722	2	0.53	1.06	—	—
Lancaster (B)	39,980	28	0.70	1.15	9	0.22
Lathom-and-Burscough	7,854	5	0.63	0.54	—	—
Lees	4,777	7	1.46	0.55	2	0.41
Leigh (B)	45,940	35	0.76	1.11	12	0.26
Leyland	9,671	3	0.31	0.74	2	0.20
Litherland	16,870	17	1.00	1.26	3	0.17
Littleborough	11,300	4	0.35	0.71	—	—
Little Crosby	1,309	—	—	0.66	—	—
Little Hulton	8,006	3	0.37	0.66	2	0.24
Little Lever	5,172	4	0.77	0.58	—	—
Longridge	4,152	2	0.48	0.87	—	—
Lytham-St.-Annes (B)	23,910	13	0.54	0.50	7	—
Middleton (B)	28,360	21	0.74	0.89	5	0.17
Milnrow	8,692	7	0.80	0.85	2	0.23
Morecambe (B)	14,990	11	0.73	0.81	1	0.06
Mossley (B)... ..	11,990	7	0.58	0.82	2	0.16
Nelson (B)	39,820	29	0.72	0.63	6	0.15
Newton-in-Makerfield	19,950	17	0.85	0.87	1	0.05

APPENDIX I (contd.).

SANITARY DISTRICTS.	Estimated Population, 1926.	Pulmonary Tuberculosis.			Non-Pulmonary Tuberculosis.	
		Number of Deaths. 1926.	Death-Rate per 1,000 of Population, 1926.	Average Death-Rate 10 years, 1916-25.	Number of Deaths, 1926.	Death-Rate per 1,000 of Population, 1926.
URBAN (contd.)						
Norden	4,246	2	0.47	0.66	—	—
Ormskirk	7,655	5	0.65	1.16	2	0.26
Orrell	7,116	6	0.84	0.68	1	0.14
Oswaldtwistle	14,960	10	0.66	0.63	3	0.20
Padiham	12,190	7	0.57	0.89	1	0.08
Poulton-le-Fylde	2,971	—	—	0.62	—	—
Preesall	1,887	2	1.05	0.65	—	—
Prescot	10,150	14	1.37	0.93	2	0.19
Prestwich	20,520	8	0.38	0.87	—	—
Radcliffe	25,240	14	0.55	0.78	5	0.19
Rainford	3,801	—	—	0.25	1	0.26
Ramsbottom	15,130	6	0.39	0.72	2	0.13
Rawtenstall (B)	28,890	21	0.72	0.74	4	0.13
Rishton	6,927	5	0.72	0.59	—	—
Royton	17,040	13	0.76	0.84	3	0.17
Skelmersdale	6,957	4	0.57	0.69	—	—
Standish-with-Langtree	7,773	5	0.64	0.65	5	0.64
Stretford	50,280	34	0.67	0.89	9	0.17
Swinton and Pendlebury	33,820	25	0.73	0.88	3	0.08
Thornton	7,305	3	0.41	0.80	—	—
Tottington	6,867	4	0.58	0.90	1	0.14
Trawden	2,716	—	—	0.69	—	—
Turton	12,240	2	0.16	0.64	1	0.08
Tyldesley-with-Shakerley	15,530	16	1.03	0.83	2	0.12
Ulverston	9,523	6	0.63	0.71	1	0.10
Upholland	5,487	1	0.18	0.80	—	—
Urmston	8,266	4	0.48	0.78	—	—
Walton-le-Dale	12,220	10	0.81	0.86	4	0.32
Wardle	4,643	4	0.86	1.19	2	0.43
Waterloo-with-Seaforth	30,710	28	0.91	1.05	4	0.13
Westhoughton	17,420	5	0.28	0.48	2	0.11
Whitefield	7,466	1	0.13	0.69	—	—
Whitworth	8,558	2	0.23	1.12	1	0.11
Widnes (B)	42,300	34	0.80	1.12	10	0.23
Withnell	3,512	1	0.28	0.77	1	0.28
Worsley	14,680	10	0.68	0.56	4	0.27
Total Urban	1,533,100	1,030	0.67	0.84	261	0.17
RURAL.						
Barton-upon-Irwell	11,290	7	0.62	0.96	1	0.08
Blackburn	10,630	5	0.47	0.64	—	—
Burnley	19,310	9	0.46	0.64	1	0.05
Bury	9,609	5	0.52	0.78	—	—
Chorley	22,350	12	0.53	0.54	2	0.08
Clitheroe	9,045	2	0.22	0.59	1	0.11
Fylde	14,410	4	0.27	0.50	3	0.20
Garstang	11,290	4	0.35	0.48	2	0.17
Lancaster	9,288	5	0.53	0.57	2	0.21
Leigh	11,710	9	0.76	0.46	1	0.08
Limehurst	8,963	7	0.78	0.89	1	0.11
Lunesdale	6,287	5	0.79	0.51	—	—
Preston	26,030	8	0.30	0.67	3	0.11
Sefton	4,459	3	0.67	1.08	1	0.22
Ulverston	16,870	10	0.59	0.66	2	0.11
Warrington... ..	13,490	11	0.81	0.81	—	—
West Lancashire	22,550	10	0.44	0.65	2	0.08
Whiston	21,510	10	0.46	0.94	3	0.13
Wigan	6,309	2	0.31	0.66	—	—
Total Rural	255,400	128	0.49	0.68	25	0.09
Total for Administra- tive County... ..	1,788,500	1,158	0.64	0.82	286	0.16
DISPENSARY AREAS.						
No. 1	251,317	150	0.58	—	57	0.22
No. 2	356,597	201	0.56	—	47	0.13
No. 3	368,696	254	0.68	—	61	0.16
No. 4	339,704	223	0.65	—	54	0.15
No. 5	375,456	274	0.72	—	57	0.15
Furness Sub-Area	39,726	30	0.75	—	4	0.10
Fylde Sub-Area	57,004	26	0.49	—	6	0.11

APPENDIX II.

NOTIFICATIONS OF TUBERCULOSIS.

Since February 1st, 1913, tuberculosis—both “pulmonary” and “other forms”—has been compulsorily notifiable under the Public Health (Tuberculosis) Regulations, 1912. The number of notifications made year by year since 1913 are given on page 8.

Tables B and C, here inserted, analyse the notifications received giving the part of the body affected and the age groups.

Table D, also inserted, compares the male and female notifications.

TABLE 27.—Deaths of 352 persons “notified as suffering from pulmonary tuberculosis” in 1926 which took place within three months of the date of notification.

Period between date of case notification and death.	Certified cause of Death.			Total.
	Pulmonary.		Non- Pulmonary	
	Primary	Secondary		
Under 1 week	70	6	7	83
1 to 2 weeks	34	1	3	38
2 to 3 weeks	19	...	...	19
3 to 4 weeks	39	...	1	40
1 to 2 months	97	5	1	103
2 to 3 months	65	...	4	69
Total under 3 months ...	324	12	16	352
	<div>336</div>			

Included in the above Table are 43 deaths which occurred outside the County area.

In addition to the foregoing 352 deaths which occurred within three months of notification, in 32 instances (15 pulmonary and 17 non-pulmonary) death took place *before* the actual receipt of the notification, against 33 (11 pulmonary and 22 non-pulmonary) in the preceding year.

TABLES B, C AND D,
ANALYSING
NOTIFICATIONS UNDER PUBLIC HEALTH
(TUBERCULOSIS)
REGULATIONS, 1912.

ADMINISTRATIVE COUNTY OF LANCASTER.

CORRECTED* SUMMARY OF NOTIFICATIONS OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS DURING THE
FIFTY-TWO WEEKS ENDED 1ST JANUARY, 1927.

NOTIFICATIONS ON FORMS A AND B—Excluding Duplicates.

		NOTIFICATIONS ON FORMS A AND B—Excluding Duplicates.																										NOTIFICATIONS, FORM B ONLY. (By School Medical Inspectors).										Number of Cases Notified on Form C. (Admissions).		Number of Cases notified on Form D (Dis- charges from Institu- tions).						
		PULMONARY.													NON-PULMONARY.													PRIMARY NOTIFICATIONS. (i.e., excluding duplicates).				Total Notifica- tions (i.e., including cases previously notified by other Doctors).														
		Years.	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and up- wds.	TOTAL.	TOTAL M. & F.	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and up- wds.	TOTAL.	TOTAL M. & F.	Total Pul- monary and Non- Pul- monary.	Under 5 years.	5 to 10 years.		10 to 15 years.	TOTAL.												
																																			P.	N.P.	P.	N.P.	P.		N.P.	P.	N.P.			
Thirteen weeks ended 3rd April, 1926 ...	{	M. F.	... 2	4 4	5 9	15 11	33 25	53 51	51 72	52 32	33 20	10 11	2 2	281 239	{	520	2 5	22 31	33 27	30 29	28 17	9 13	10 18	8 8	8 4	... 3	1 1	151 144	{	295	815	P. ...	N.P. ...	P. ...	N.P. ...	P. ...	N.P. ...	P. ...	N.P. ...	5 3	{	8	10	9	283	259
Thirteen weeks ended 3rd July, 1926 ...	{	M. F.	... 4	1 17	8 13	10 33	21 53	34 62	61 37	54 12	34 16	37 12	3 4	263 251	{	514	5 7	31 30	27 29	20 17	23 19	13 19	18 17	8 12	8 4	4 1	1 1	149 156	{	305	819	... 1	... 1	... 4	... 1	... 3	... 1	... 5	7 5	{	13	14	5	375	316	
Thirteen weeks ended 2nd October, 1926 ...	{	M. F.	1 ...	2 2	9 11	8 12	18 35	22 33	57 48	51 22	44 16	21 11	4 5	237 195	{	432	1 3	15 21	27 16	20 11	15 9	5 8	7 10	6 3	3 2	1 3	93 98	{	191	623	... 1	... 3	... 2	... 2 5	3 5	{	8	9	5	314	330		
Thirteen weeks ended 1st January, 1927 ...	{	M. F.	... 2	5 4	7 11	9 21	32 19	39 42	42 28	39 16	42 16	28 4	19 6	199 163	{	362	2 4	22 13	14 13	16 8	13 13	2 4	4 9	6 8	1 1	1 2	77 85	{	162	524 1	1 ...	{	1	2	4	306	321	
Total ...	{	M. F.	1 2	9 12	27 41	40 47	91 114	113 169	210 224	198 120	158 68	110 38	23 13	980 848	{	*1828	10 19	90 83	97 94	76 51	75 67	29 56	35 51	32 34	16 17	7 6	3 5	470 483	{	*953	*2781	... 2	... 4	... 8	... 6	... 1	... 3	... 1	... 16	13 13	{	30	35	23	1278	1226

*Corrected figures after deducting 61 Pulmonary and 41 Non-Pulmonary cases notified in error.

TABLE C.

ADMINISTRATIVE COUNTY OF LANCASTER.

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1912—1924.

ANALYSIS OF THE NOTIFICATIONS ON FORMS A AND B (EXCLUDING DUPLICATES) RECEIVED DURING THE FIFTY-TWO WEEKS
ENDED 1st JANUARY, 1927. († Corrected figures.)

(Collated from Weekly Returns of District Medical Officers of Health.)

AGE—YEARS :—		...	0 — 1			1 — 5			5 — 10			10 — 15			15 — 20			20 — 25			25 — 35			35 — 45			45 — 55			55 — 65			65 & upwds.			TOTALS.			...		
SEX.		Col.	M.	F.	Both Sexes	M.	F.	Both Sexes	M.	F.	Both Sexes	M.	F.	Both Sexes	M.	F.	Both Sexes	M.	F.	Both Sexes	M.	F.	Both Sexes	M.	F.	Both Sexes	M.	F.	Both Sexes	M.	F.	Both Sexes	M.	F.	Both Sexes	M.	F.	Both Sexes	Col.		
PULMONARY—																																									
Lungs only ...	...	1	1	2	3	8	11	19	20	33	53	34	44	78	91	109	200	110	167	277	205	223	428	188	118	306	156	67	223	109	37	146	23	11	34	945	822	1767	1	
Lungs and Larynx...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	3	5	1	6	7	1	8	2	1	3	109	37	146	23	11	34	16	6	22	2
Larynx ...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	3	1	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Bronchial Glands	...	4	...	...	...	1	1	2	6	8	14	6	3	9	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mediastinal Glands	...	5	...	...	...	...	...	...	1	...	1	...	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
PULMONARY TOTAL	...	6	1	2	3	9	12	21	27	41	68	40	47	87	91	114	205	113	169	282	210	224	434	198	120	318	158	68	226	110	38	148	23	13	36	980	848	1828	6		
*Cases—Pulmonary and Non-Pulmonary combined		...	...	...	...	4	...	4	5	1	6	3	2	5	6	6	12	3	4	7	7	4	11	8	1	9	2	3	5	2	...	2	...	...	...	40	21	61	
NON-PULMONARY—																																									
JOINTS AND BONES	Head ... (Incl. Middle Ear)	7	1	...	1	1	...	1	7	
	Trunk—																																								
	Ribs and Sternum	8	1	...	1	1	...	1	3	...	3	1	1	2	...	1	1	...	1	1	...	1	1	6	3	9	8
	Spine	9	...	1	1	8	5	13	5	4	9	2	2	4	4	6	10	3	5	8	2	3	5	6	3	9	4	4	8	...	1	1	...	1	1	34	35	69	9		
	Arm—																																								
	Shoulder	10	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Scapula	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Humerus	12	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Elbow	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Radius	14	...	...	...	...	...	...	...	...	...	1	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Ulna	15	1	...	1	
	Hand and Wrist	16	4	4	8	1	1	2	1	1	2	3	1	4	...	2	2	1	...	1	1	1	2	
	Leg—																																								
	Hip and Pelvis	17	7	2	9	6	8	14	4	4	8	5	3	8	3	2	5	4	1	5	2	1	3	1	...	1	1	
	Femur	18	...	...	...	...	...	...	1	...	1	1	...	1	...	...	1	...	1	1	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Knee	19	...	...	...	3	4	7	2	3	5	2	1	3	2	2	4	1	1	2	2	3	5	1	2	3	1	...	1	...	...	...	...	...	...	...	...	...	...
Tibia	20	...	...	...	...	...	...	...	...	...	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fibula	21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Foot and Ankle	22	...	...	...	2	2	4	1	2	3	1	1	2	5	4	9	2	...	2	...	1	...	...	3	3	...	...	...	...	1	...	1	1	...	1	14	12	26	22
Two or more different Joints	23	...	...	...	...	...	...	...	1	1	2	...	2	2	...	2	...	...	...	...	1	...	1	...	1	1	...	2	2	...	...	...	...	...	...	...	...	...	...
Not Classified	24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ABDOM- INAL	Intestines	25	1	1	2	1	...	1	...	...	1	...	1	...	...	...	...	...	...	...	2	2	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Peritoneum	26	2	3	5	14	16	30	17	10	27	12	5	17	5	7	12	2	2	4	1	7	8	3	2	5	...	...	...	...	...	...	...	...	...	...	...	...
	Mesenteric Glands	27	...	...	...	2	4	6	4	4	8	3	2	5	...	1	1	...	1	1	...	1	2	3	2	...	2	...	...	...	...	...	...	...	...	...	...	...
GENITO- URINARY	Bladder	28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fallopian Tube	29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Kidney	30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Prostate	31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suprarenal	32	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Testicle and Epididymis	33	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(Two or more)	34	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...		

TABLE D.

ADMINISTRATIVE COUNTY OF LANCASTER.

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1912—1924.

THE FOLLOWING TABLE COMPARES THE MALE AND FEMALE NOTIFIED CASES IN THE ADMINISTRATIVE COUNTY DURING THE YEARS 1913 to 1926, AT CERTAIN AGE GROUPS:—

		PULMONARY TUBERCULOSIS.													NON-PULMONARY TUBERCULOSIS.												
	Cases Male or Fe- male.	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and up- wds.	Total.	Total. M. & F.	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and up- wds.	Total.	Total. M. & F.
1913 ... (11 months)	M	1	24	97	70	129	131	311	292	228	114	29	1426	2700	29	128	177	137	98	58	71	48	27	18	3	794	1592
	F	6	28	100	104	158	188	296	201	103	65	25	1274		28	118	134	132	118	86	80	47	29	19	7	798	
1914 ...	M	6	40	80	83	112	172	329	315	240	107	23	1507	2820	43	111	131	95	77	36	47	23	20	14	3	600	1140
	F	3	32	115	107	140	181	336	225	107	47	20	1313		37	88	98	89	77	44	58	27	12	6	4	540	
1915 ...	M	5	47	97	79	127	138	305	303	235	117	34	1487	2872	39	109	113	93	61	46	50	29	14	5	3	562	1128
	F	5	27	96	111	152	191	383	239	100	60	21	1385		26	88	107	88	84	53	61	33	15	7	4	566	
1916 ...	M	1	31	71	77	121	157	331	296	190	96	36	1407	2689	20	127	135	99	65	42	47	34	12	13	5	599	1180
	F	2	24	81	96	165	186	345	220	98	52	13	1282		8	68	122	114	85	46	65	41	19	11	2	581	
1917 ...	M	4	20	77	62	113	104	262	268	190	90	30	1220	2375	21	116	109	105	61	23	42	30	8	9	1	525	1062
	F	2	22	90	100	129	155	296	185	107	50	19	1155		7	79	97	98	89	59	49	25	23	6	5	537	
1918 ...	M	3	35	55	59	140	108	300	317	232	98	28	1375	2534	14	75	103	65	60	19	29	16	14	7	2	404	885
	F	1	24	69	74	139	166	297	207	117	52	13	1159		10	75	84	92	80	46	46	29	9	6	4	481	
1919 ...	M	2	22	53	55	94	107	238	212	165	91	17	1056	2105	13	50	97	80	53	26	31	22	19	12	4	407	847
	F	5	14	54	80	126	161	261	184	99	41	24	1049		10	59	98	76	61	43	41	29	11	7	5	440	
1920 ...	M	2	24	56	63	94	120	281	249	160	90	14	1153	2084	31	62	107	108	68	26	35	23	16	11	5	492	968
	F	2	20	53	71	115	122	264	147	84	36	17	931		12	66	86	78	62	46	52	34	23	16	1	476	
1921 ...	M	1	17	43	47	94	133	222	225	162	84	19	1047	2044	12	60	110	84	53	32	41	23	17	6	4	442	899
	F	...	12	53	77	132	160	255	156	82	50	20	997		15	62	89	81	65	41	53	15	21	9	6	457	
1922 ...	M	3	16	38	47	83	120	227	190	148	99	27	998	*1863	18	101	111	79	55	37	39	22	13	7	3	485	*956
	F	4	15	45	57	135	135	202	146	61	42	23	865		13	77	80	95	61	45	50	24	14	7	5	471	
1923 ...	M	2	10	41	43	82	132	236	207	147	94	13	1007	†1937	18	115	134	105	75	35	45	22	14	15	6	584	†1188
	F	1	14	43	60	115	149	251	149	83	49	16	930		14	103	110	107	68	60	64	31	28	14	5	604	
1924 ...	M	...	27	37	52	105	110	203	199	197	97	18	1045	‡1972	19	123	92	92	95	35	43	25	17	12	3	556	‡1120
	F	3	12	29	55	144	139	223	169	94	49	10	927		6	99	87	94	80	55	72	30	17	11	13	564	
1925 ...	M	...	22	32	38	81	115	212	200	192	74	24	990	§1846	17	108	106	73	58	37	53	26	15	12	5	510	§1027
	F	3	10	24	44	144	153	198	136	85	34	25	856		9	86	84	91	82	41	57	33	18	10	6	517	
1926 ...	M	1	9	27	40	91	113	210	198	158	110	23	980	||1828	10	90	97	76	75	29	35	32	16	7	3	470	||953
	F	2	12	41	47	114	169	224	120	68	38	13	848		19	83	94	51	67	56	51	34	17	6	5	483	

* Corrected figures for 1922 after deducting 14 Pulmonary and 12 Non-Pulmonary cases notified in error.

†	1923	33	31
‡	1924	57	38
§	1925	83	49
||	1926	61	41

TABLE 28.—*Actual number of deaths from pulmonary and non-pulmonary tuberculosis since 1918 not previously notified under the Public Health (Tuberculosis) Regulations :—*

No. of Non-notified Fatal Cases of—	1918	1919	1920	1921	1922	1923	1924	1925	1926
Pulmonary Tuberculosis (Consumption) ...	303	221	177	135	105	85	64	67	58
Non-Pulmonary Tuberculosis ...	137	104	122	96	83	74	65	57	32
Total	440	325	299	231	188	159	129	124	90

The 90 deaths in 1926 of cases not previously notified under the Regulations are further analysed below :—

TABLE 29.

	Cause of Death.		Total.
	Pulmonary. Primary	Secondary Non-Pulmonary	
No. of deaths of persons at private addresses	43	3	21
No. in County Mental Hospitals of persons belonging to County area	4	—	—
No. in Union Institutions of persons belonging to County area	7	—	—
No. in other public institutions of persons belonging to County area	1	—	11
	55	3	
	58		32
			90

During 1926, 93 pulmonary and 66 non-pulmonary deaths occurred outside the County area of persons usually residing in the Administrative County. Of these, 84 pulmonary and 66 non-pulmonary occurred in public institutions. In 39 instances no case notification could be traced. These are not included in Table 29.

N.B.—The Tables mentioned in Appendix II have been prepared in the County Public Health Department.

APPENDIX III.

Return showing the work of the Dispensaries during the year 1926.
(Table I. of Memorandum 37/T of Ministry of Health).

DIAGNOSIS.	PULMONARY.				NON-PULMONARY.				TOTAL.			
	Adults.		Children.		Adults.		Children.		Adults.		Children.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
A.—NEW CASES examined during the year (excluding contacts) :												
(a) Definitely tuberculous ...	688	558	57	71	196	214	209	169	884	772	266	240
(b) Doubtfully tuberculous...	—	—	—	—	—	—	—	—	116	102	34	39
(c) Non-tuberculous...	—	—	—	—	—	—	—	—	704	641	314	331
B.—CONTACTS examined during the year :												
(a) Definitely tuberculous ...	12	20	3	11	4	2	9	11	16	22	12	22
(b) Doubtfully tuberculous...	—	—	—	—	—	—	—	—	10	15	9	23
(c) Non-tuberculous ...	—	—	—	—	—	—	—	—	162	310	296	307
C.—CASES written off the Dispensary Register as :												
(a) Cured	247	270	27	18	152	162	103	66	399	432	130	84
(b) Diagnosis not confirmed or non-tuberculous (including cancellation of cases notified in error)...	—	—	—	—	—	—	—	—	949	1020	661	686
D.—NUMBER OF PERSONS on Dispensary Register on December 31st :												
(a) Diagnosis completed ...	2544	2010	259	257	957	1136	842	773	3501	3146	1101	1030
(b) Diagnosis not completed	—	—	—	—	—	—	—	—	26	25	18	19

1. Number of persons on Dispensary Register on January 1st	9079	9. Number of patients to whom Dental Treatment was given, at or in connection with the Dispensary ...	21*
2. Number of patients transferred from other areas and of "lost sight of" cases returned	106	10. Number of consultations with medical practitioners :— (a) At Homes of Applicants	874
3. Number of patients transferred to other areas and cases "lost sight of"	499	(b) Otherwise	4502
4. Died during the year { From Tuberculosis 1032 From other than Tuberculosis 74	1106	11. Number of other visits by Tuberculosis Officers to Homes ...	5525
5. Number of observation cases under A (b) and B (b) above, in which period of observation exceeded 2 months... ..	59	12. Number of visits by Nurses or Health Visitors to Homes for Dispensary purposes	50332
6. Number of attendances at the Dispensary (including Contacts) ...	23639	13. Number of (a) Specimens of sputum, &c., examined	5570
7. Number of attendances of non-pulmonary cases at Orthopaedic Outstations for treatment or supervision	1386	(b) X-ray examinations made in connection with Dispensary work	4440
8. Number of attendances, at General Hospitals or other Institutions approved for the purpose, of patients for	At Tuberculosis Dispensaries 11892 At Hospitals 1657	14. Number of Insured Persons on Dispensary Register on the 31st December	4496
(a) "Light" treatment	13549	15. Number of Insured Persons under Domiciliary Treatment on the 31st December	1566
(b) Other special forms of treatment	3330	16. Number of reports received during the year in respect of Insured Persons :— (a) Form G.P. 17	49
		(b) Form G.P. 36	106

* In addition, 348 individual patients received dental attention whilst undergoing treatment in sanatoria or hospitals.

APPENDIX IV.

RESIDENTIAL INSTITUTIONS.

(A) AVERAGE NUMBER OF BEDS AVAILABLE FOR PATIENTS DURING
THE YEAR 1926.

(Table II. of Memorandum 37/T of Ministry of Health).

	Observa- tion.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Total.
		"Sana- torium" Beds.	"Hospital" Beds.	Disease of Bones and Joints.	Other Conditions.	
Adult Males	5	161	137	37	18	358
Adult Females	4	141	107	25	14	291
Children under 15	5	46	9	101	19	180
TOTAL	14	348	253	163	51	829

(B) RETURN SHOWING THE EXTENT OF RESIDENTIAL TREATMENT
DURING THE YEAR 1926.

			In Institutions on Jan. 1.	Admitted during the year.	Discharged during the year.	Died in the Institutions.	In Institutions on Dec. 31.
Number of Patients ...	Adults	M.	315	922	782	113	342
		F.	245	722	610	86	271
	Chil- dren	M.	122	170	164	14	114
		F.	95	141	141	8	87
Number of Observation Cases	Adults	M.	10	33	39	—	4
		F.	3	26	26	1	2
	Chil- dren	M.	8	6	14	—	—
		F.	7	11	13	—	5
	Total...		805	2031	1789	222	825

APPENDIX V.

Return showing the immediate results of treatment of patients and of observation of doubtful cases discharged from Residential Institutions during the year 1926.

(Table III. of Memorandum 37/T of Ministry of Health).

Classification on admission to the Institution.		Condition at time of discharge.	Duration of Residential Treatment in the Institution.												TOTAL
			Under 3 months.			3—6 months			6—12 months			More than 12 months			
			M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
PULMONARY TUBERCULOSIS.	Class T.B. minus.	Quiescent	20	8	4	21	34	12	10	9	18	2	3	9	150
		Improved	27	15	5	32	29	8	8	17	8	2	1	9	161
		No material improvement...	12	20	—	6	3	2	3	2	1	—	—	1	50
		Died in Institution	9	7	2	2	—	1	3	—	—	—	1	—	25
	Class T.B. plus Group 1.	Quiescent	3	6	—	10	5	1	3	2	—	—	1	—	31
		Improved	19	9	—	22	9	1	6	12	—	—	3	—	81
		No material improvement...	9	2	1	6	1	1	3	1	1	—	—	—	25
		Died in Institution	4	—	—	—	—	—	—	—	—	—	—	—	4
	Class T.B. plus Group 2.	Quiescent	8	3	—	10	4	1	7	6	—	—	1	—	40
		Improved	66	29	—	74	57	—	38	26	2	9	13	1	315
		No material improvement...	37	32	2	31	19	—	8	6	—	1	3	1	140
		Died in Institution	26	17	3	8	4	1	1	—	1	1	—	—	62
	Class T.B. plus Group 3.	Quiescent	—	3	—	1	1	—	—	—	—	—	—	1	6
		Improved	7	3	—	12	4	4	16	6	1	4	3	1	61
		No material improvement	24	29	1	12	21	—	14	12	1	3	3	—	120
		Died in Institution	25	25	—	15	15	—	6	6	—	5	6	1	104
	Bones & Joints.	Quiescent or Arrested ...	4	2	5	2	2	3	1	2	7	3	3	20	54
		Improved	43	15	18	3	6	7	6	5	2	10	3	10	128
		No material improvement...	10	3	3	5	1	1	1	—	2	—	1	—	27
		Died in Institution...	—	1	—	—	—	—	3	2	2	—	—	4	12
	Abdominal.	Quiescent or Arrested ...	2	1	2	—	—	—	—	—	3	—	—	1	9
		Improved	7	6	8	3	3	4	—	1	—	—	—	1	33
		No material improvement...	2	4	4	1	—	1	—	—	—	—	1	—	13
		Died in Institution	3	—	2	—	—	1	—	—	—	—	—	—	6
Other Organs.	Quiescent or Arrested ...	3	—	1	1	—	—	—	—	—	—	—	—	5	
	Improved	23	23	10	3	1	1	—	—	1	—	—	2	64	
	No material improvement...	3	2	1	—	—	—	—	—	—	—	1	—	7	
	Died in Institution...	1	2	2	—	—	—	—	—	—	—	—	1	6	
Peripheral Glands.	Quiescent or Arrested ...	5	13	24	—	1	6	—	—	3	—	—	—	52	
	Improved	26	31	45	2	—	5	2	—	1	—	—	1	113	
	No material improvement...	5	2	4	—	1	—	—	—	—	—	—	—	12	
	Died in Institution	1	—	1	—	—	—	—	—	—	—	—	—	2	
Observation for purpose of Diagnosis.			Under. 1 week			1—2 weeks.			2—4 weeks.			More than 4 weeks.			
	Tuberculous	1	—	—	2	1	—	3	—	—	12	11	12	42	
	Non-tuberculous	—	—	—	—	—	—	3	1	2	16	11	12	45	
	Doubtful	—	—	—	—	1	—	—	—	—	2	1	1	5	
	Died in Institution*	—	—	—	—	—	—	—	—	—	—	1	—	1	

* This observation case died of convulsions.

APPENDIX VI.

TABLE E.

NON-PULMONARY TUBERCULOSIS.

AFTER-HISTORIES OF 2,281 PATIENTS WHO
RECEIVED TREATMENT IN SPECIAL AND
GENERAL HOSPITALS, 1912-25.

TABLE E.

APPENDIX VI.

AFTER-HISTORIES OF 2,281 PATIENTS SUFFERING FROM NON-PULMONARY TUBERCULOSIS WHO RECEIVED TREATMENT IN SPECIAL AND GENERAL HOSPITALS
ASSOCIATED WITH HOME TREATMENT AND DISPENSARY SUPERVISION.

Classification.	*Adults or Children.	Patients who applied in 1912-15.					Patients who applied in 1916-20.					Patients who applied in 1921-25.				
		Net† Number of Patients who received treatment.	Position at end of 1926.				Net† Number of Patients who received treatment.	Position at end of 1926.				Net† Number of Patients who received treatment.	Position at end of 1926.			
			Cured.‡	Fit for Work or School.	Unfit for Work or School.	Died from Tuberculosis.		Cured‡	Fit for Work or School.	Unfit for Work or School.	Died from Tuberculosis.		Cured‡	Fit for Work or School.	Unfit for Work or School.	Died from Tuberculosis.
Bones and Joints ...	Adults ...	28	% 53·6	% 17·8	% ...	% 28·6	181	% 37·6	% 19·9	% 10·5	% 32·0	252	% 3·9	% 42·8	% 25·8	% 27·4
	Children ...	18	22·2	22·2	11·1	44·4	159	32·1	34·6	6·3	27·0	213	6·6	57·7	20·6	15·0
Abdominal ...	Adults ...	4	50·0	...	...	50·0	23	43·5	8·7	...	47·8	48	4·2	52·0	6·2	37·5
	Children ...	5	100	...	...	...	36	72·2	8·3	2·8	16·7	134	17·2	38·8	17·9	26·1
Other Organs ...	Adults ...	5	60·0	...	...	40·0	17	17·6	29·4	11·8	41·2	44	6·8	61·4	9·1	22·7
	Children ...	...	...	...	...	...	2	...	...	50·0	50·0	8	...	50·0	25·0	25·0
Peripheral Glands ...	Adults ...	37	70·3	13·5	2·7	13·5	145	77·9	15·2	0·7	6·2	224	20·9	74·5	3·1	1·3
	Children ...	4	75·0	25·0	...	...	178	71·9	24·2	1·1	2·8	387	25·3	67·7	4·9	2·1
Skin ...	Adults ...	2	...	50·0	50·0	...	33	12·1	69·7	18·2	...	41	7·3	75·6	14·6	2·4
	Children ...	...	...	...	...	...	18	22·2	61·1	16·7	...	35	14·3	82·8	2·8	...
Total ...	Adults ...	76	60·5	14·5	2·6	22·4	399	49·6	22·1	7·0	21·3	609	10·7	58·8	13·9	16·6
	Children ...	27	44·4	18·5	7·4	29·6	393	53·2	28·5	4·3	13·9	777	18·0	60·5	11·6	9·9

* All patients who were under 15 years of age at the time of applying for treatment are classified as children for the purpose of tabulating the after-histories.
† Net number arrived at after deducting patients left County, untraced, ceased treatment for other than medical reasons, died from other than tuberculosis, transferred to pulmonary, and still in hospital on 31/12/26.
‡ These cases have been classified as cured in accordance with Memo 37/T of Ministry of Health as at least three years have elapsed without any signs or symptoms of active disease.

APPENDIX VII.

TABLE F.

NON-PULMONARY TUBERCULOSIS.

AFTER-HISTORIES OF 2,192 PATIENTS WHO
RECEIVED TREATMENT AT HOME OR AT OUT-
PATIENT DEPARTMENTS, 1912-25.

TABLE F.

APPENDIX VII.

AFTER-HISTORIES OF 2,192 PATIENTS SUFFERING FROM NON-PULMONARY TUBERCULOSIS WHO RECEIVED TREATMENT AT HOME FROM THEIR OWN DOCTORS
OR AT OUT-PATIENT DEPARTMENTS OF GENERAL OR SPECIAL HOSPITALS.

Classification.	*Adults or Children.	Patients who applied in 1912-15.					Patients who applied in 1916-20.					Patients who applied in 1921-25.				
		Net† Number of Patients who received treatment.	Position at end of 1926.				Net† Number of Patients who received treatment.	Position at end of 1926.				Net† Number of Patients who received treatment.	Position at end of 1926.			
			Cured‡	Fit for Work or School.	Unfit for Work or School.	Died from Tuberculosis.		Cured‡	Fit for Work or School.	Unfit for Work or School.	Died from Tuberculosis.		Cured‡	Fit for Work or School.	Unfit for Work or School.	Died from Tuberculosis.
Bones and Joints ...	Adults ...	36	% 47·2	% 11·1	% 5·5	% 36·1	139	% 49·6	% 14·4	% 6·5	% 29·5	172	% 9·9	% 47·7	% 22·1	% 20·3
	Children ...	6	50·0	16·7	...	33·3		66·7	18·7	1·0	13·5		17·4	57·9	17·4	7·3
Abdominal ...	Adults ...	8	37·5	...	...	62·5	39	23·1	15·4	2·6	58·9	78	3·8	44·9	6·4	44·9
	Children ...	2	100	...	...	...		54·0	10·8	...	35·1		10·7	46·4	6·2	36·6
Other Organs ...	Adults ...	8	...	...	...	100	13	53·8	7·7	...	38·5	32	9·4	53·1	15·6	21·9
	Children ...	...	...	...	...	...		...	100	...	...		...	50·0	...	50·0
Peripheral Glands ...	Adults ...	18	72·2	11·1	...	16·7	147	80·9	8·2	1·4	9·5	259	15·4	78·8	3·9	1·9
	Children ...	5	80·0	...	...	20·0		78·3	17·4	0·7	3·6		19·6	70·1	8·6	1·7
Skin ...	Adults ...	1	...	100	...	...	68	30·9	51·5	8·8	8·8	81	12·3	79·0	7·4	1·2
	Children ...	...	...	...	...	...		61·5	30·8	3·8	3·8		13·1	81·6	5·3	...
Total ...	Adults ...	71	46·5	9·8	2·8	40·8	406	55·4	18·2	4·4	21·9	622	11·7	64·6	10·3	13·3
	Children ...	13	69·2	7·7	...	23·1		69·8	18·4	1·0	10·7		17·0	64·8	9·8	8·3

* All patients who were under 15 years of age at the time of applying for treatment are classified as children for the purpose of tabulating the after-histories.
† Net number arrived at after deducting patients left County, untraced, ceased treatment for other than medical reasons, died from other than tuberculosis, and transferred to pulmonary.
‡ These cases have been classified as cured in accordance with Memo 37/T of the Ministry of Health as at least three years have elapsed without any signs or symptoms of active disease.

APPENDIX VIII.

INSTITUTIONAL ACCOMMODATION.

The following table shows the number of beds occupied by County patients undergoing residential treatment for pulmonary and non-pulmonary tuberculosis on the 31st December, 1926 :—

Institution.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Total.
	Adults.	Children.	Adults.	Children.	
<i>(a) Sanatoria.</i>					
Aitken, near Bury	45	2	—	—	47
East Lancashire, Cheshire	38	—	—	—	38
Elswick, near Kirkham	41	—	—	—	41
Halifax (Shelf)	11	—	—	—	11
High Carley, near Ulverston	86	3	—	—	89
King George V., Hants (for sailors)	1	—	—	—	1
Meathop, Grange-over-Sands	34	1	—	—	35
Rufford, near Ormskirk... ..	8	—	—	—	8
Wilkinson, Bolton	15	—	—	—	15
Total	279	6	—	—	285
<i>(b) Children's Sanatoria.</i>					
Eastby, near Skipton	—	24	—	12	36
Oubas House, near Ulverston	—	17	—	2	19
Total	—	41	—	14	55
<i>(c) Training Colony.</i>					
East Lancashire, Cheshire	5	—	—	—	5
<i>(d) Pulmonary Hospitals.</i>					
Bull Hill, Darwen	18	2	—	—	20
Burnley	10	—	—	—	10
Chadderton, near Oldham	36	—	—	—	36
East Lancashire, Cheshire	6	—	—	—	6
Eccleston Hall, St. Helens	4	—	—	—	4
Heath Charnock, Chorley.	27	3	—	—	30
Hefferston Grange, Cheshire	8	—	—	—	8
Linacre, Bootle	1	—	—	—	1
Luneside, Lancaster	17	1	—	—	18
Marland, Rochdale	3	—	—	—	3
Peel Hall, Little Hulton	52	—	—	—	52
Pemberton, Wigan	3	—	—	—	3
Rufford, near Ormskirk... ..	32	3	—	—	35
Westhulme, Oldham	2	—	—	—	2
Wolstenholme Hall, Norden	21	—	—	—	21
Total	240	9	—	—	249
<i>(e) Observation Cases (Pulmonary).</i>					
Bury Observation Hospital	—	1	—	—	1
Chadderton Pulmonary Hospital	—	1	—	—	1
High Carley Sanatorium	4	1	—	—	5
Oubas House Sanatorium	—	2	—	—	2
Peel Hall Pulmonary Hospital... ..	1	—	—	—	1
Total	5	5	—	—	10
<i>(f) General Hospitals.</i>					
Ashton-under-Lyne Infirmary	—	—	3	1	4
Bury Infirmary	—	—	1	—	1
Liverpool David Lewis Northern Hospital	—	—	1	—	1
Manchester Royal Infirmary	—	—	5	—	5
Preston Royal Infirmary	—	—	3	1	4
Salford Royal Hospital	—	—	1	—	1
Southport Infirmary	—	—	1	—	1
Warrington Infirmary	—	—	2	—	2
Wigan Infirmary	—	—	1	2	3
	—	—	18	4	22

APPENDIX VIII.
INSTITUTIONAL ACCOMMODATION (contd.).

Institution.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Total.
	Adults.	Children.	Adults.	Children.	
(g) <i>Special Hospitals.</i>					
Elswick, near Kirkham	—	—	22	3	25
Fazakerley, Liverpool	—	—	1	—	1
Rufford, near Ormskirk... ..	—	—	5	—	5
Shropshire Orthopædic, Oswestry ...	—	—	40	7	47
Total	—	—	68	10	78
(h) <i>Children's Non-Pulmonary Hospitals.</i>					
Alton, Hants (Lord Mayor Treloar Cripples' Hospital)... ..	—	—	—	24	24
Heatherwood, Berks (United Services Fund)	—	—	—	22	22
Heswall (Royal Liverpool Children's Hospital)	—	—	—	16	16
Leasowe (Liverpool Open-air Hospital for Children)	—	—	—	30	30
Pendlebury (Royal Manchester Children's Hospital)	—	—	—	3	3
Sheffield (King Edward VII Hospital for Crippled Children)	—	—	—	12	12
Thingwall, Cheshire (Royal Liverpool Children's Hospital)	—	—	—	3	3
West Kirby (Children's Convalescent Home)	—	—	—	7	7
Total	—	—	—	117	117
(i) <i>Skin Hospital.</i>					
Manchester and Salford... ..	—	—	3	—	3
(j) <i>Observation Cases (Non-Pulmonary).</i>					
Blackburn Royal Infirmary	—	—	1	—	1
GRAND TOTAL	529	61	90	145	825
	590		235		